2004

The impact of a garden program on the physical environment and social climate of a prison yard at San Quentin State Prison

Kathryn E. Waitkus

THE IMPACT OF A GARDEN PROGRAM ON THE PHYSICAL ENVIRONMENT AND SOCIAL CLIMATE OF A PRISON YARD AT SAN QUENTIN STATE PRISON

A Research Project

Presented to the Faculty of

The George L. Graziadio

School of Business and Management

Pepperdine University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

in

Organization Development

---

by

Kathryn E. Waitkus

August 2004

This research project, completed by

KATHRYN E. WAITKUS

under the guidance of the Faculty Committee and approved by its members, has been submitted to and accepted by the faculty of The George L. Graziadio School of Business and Management in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

IN ORGANIZATION DEVELOPMENT

Date_____

Faculty Committee

_____
Committee Chair, Miriam Lacey, Ph.D.

_____
Committee Member, Ann Feyerherm, Ph.D.

_____

Linda Livingstone, Ph.D., Dean
The George L. Graziadio School of Business and Management

Abstract

Despite the fact that the physical environments and social climates of prisons have been found to be physically and mentally stressful to inmates, more than 70% of those within the California prison system return to prison within three years after being paroled. As part of an effort to reduce these high recidivism rates, a rehabilitative gardening program was started at San Quentin State Prison. The intent of this project was to determine the impact of a garden project on the physical environment and social climate of a prison yard, from both inmate and staff perspectives.

Research was primarily qualitative, consisting of interviews conducted with inmate program participants, an inmate control group, and prison staff before and after the garden was planted. Data were analyzed to determine opinions relating to the physical environment and social climate of the prison yard, the impact of the garden on those environments, differences between inmates and staff, and whether expectations about the potential impact were met.

The evidence suggested that (a) gardens invited attention, use, and refuge; (b) being in or near a garden could reduce stress; (c) gardens might provide “neutral” territory in a segregated prison yard; (d) inmate participants gain benefits from directly working with nature; (e) gardens create the possibility for hope and further change; and (f) prison staff are generally more concerned about the impact of change than are the inmates themselves. Inmate and staff expectations about the impact of the garden in the prison yard were met or exceeded.

Recommendations and implications propose using the Garden Program to enhance collaboration, trust, and respect between inmates and staff through active staff participation in classes. The program also could be expanded to prison systems throughout California. Once inmates are paroled, they could collaborate with local communities to help design and build community gardens and begin to transform the prevailing attitudes about having “done time.”

Limitations of the research included the reduction of the program scale during the project planning stages as well as the short length of time between pre- and post-garden research. Suggestions for future research would be to expand the Garden Program and to conduct a longitudinal study to determine the impact of the program on inmates after they are paroled.

The outcomes of this study suggest the potential for organization development practitioners to facilitate gardening projects as an intervention approach to creating healthier physical environments and social climates within other types of organizations.

Acknowledgments

There are many people to whom I owe much gratitude for their guidance, support, knowledge, patience, and care during this transformational learning journey. First thanks go to my thesis advisor Miriam Lacey, whose faithful support, good humor, and gentle prodding guided me through what seemed an endless process; to Ann Feyerherm, my faculty advisor who provided thoughtful coaching and encouragement; and to alumna and research coach Karen Koepp for her on-the-spot brainstorming, structure, and process that provided order out of the chaos. Mark Giulieri of Delta Prime held me up in the toughest of spots, and his care and deep friendship are greatly appreciated.

A special thanks to my dear Sherpas, a most extraordinary learning group of kindred spirits who helped me climb the peaks to complete this project—Dale Ainsworth, Yvonne Vick, Brooks Ferguson, Kitty Farnham, and Beth Ganslen. Together, we will make a difference in the world.

I also am deeply grateful to my mentor, colleague, and dear friend at the Insight Prison Project, Jacques Verduin, whose encouragement during the most difficult of times and challenging circumstances at the prison helped me to keep the “vision of a garden in my heart.”

Without generous collaboration of the staff at San Quentin State Prison, the garden would not have materialized. I have the deepest respect for former warden Jeannie Woodford, who is now the director of the California Department of Corrections. She embodied the phrase “culture change,” and we are hopeful she can accomplish much on a statewide level. Acknowledgments also must go to Lieutenants Roland Egan and George Fuller, Sergeant Dave Kilmer, and Officer Shayne Britt—who supported this project from the very beginning, helped make things happen, cared for my safety, and whose experience and forthrightness provided me with an inside perspective for which I am deeply grateful. I also am indebted to the prison’s former community services manager, Robert Flax, for his academic guidance and friendship, as well as the volunteer landscapers—Ted Spores, Mathew Farnsworth, and John Koene—without whom we could not have created such a sanctuary within a prison yard.

I dedicate this work to the inmates participating in the Garden Program with whom I have worked so closely. The ones who have been paroled since the beginning of this project are not forgotten. Their care, patience, tenacity, support, and eagerness to learn—as well as their intention to change and make better lives for themselves—truly has been inspiring. There is much work to do in planting seeds for change throughout the California and United States prison system—they are the embodiment of that beginning. I thank them for renewing my faith in the human spirit time and again and for their good hearts.

Table of Contents

Chapter Page

Chapter Page

Chapter Page

List of Tables

Table Page

Table Page

Chapter 1

Introduction

Prisons in the United States have been generally overcrowded and bleak environments designed to warehouse inmates and separate them from society. Although many of the inmates confined within prison walls have had issues with violence, anger, and addiction, the environment and system itself have not been designed to heal; rather they have controlled and disciplined the populations in institutionalized settings. This warehousing of inmates has not been conducive to successfully transitioning them to the outside world once they are paroled.

Despite environmental conditions in medium- and maximum-security prisons around the United States, recidivism rates are high. In the state of California, which has the third largest penal system in the world after the United States and China, the official recidivism rate of inmates released from its prisons in 1999 was almost 60% within two years or release (California Department of Corrections, 2002). Others have concurred that the state's recidivism rate is currently more than 70% (Zamorra, 2002).

The California Department of Corrections' (CDCs') recidivism statistics mentioned above refer to parolees in California convicted of crimes ranging from manslaughter to assault and battery and from sexual misconduct to drug possession—cocaine possession being the most frequent principal commitment arrest. In addition, "California is one of three states in which most people who enter prison each year are not new offenders but parolees who either commit new crimes or so-called technical violations of their parole terms" (Zamorra, 2002, p. A1). This has been double the national average for parolees re-entering

the system. According to CDC spokesperson Terry Thornton, “California law dictated that the purpose of prison is punishment” (p. A1).

For more than 20 years, prisons nationwide have moved to harsher systems of punishment for those incarcerated; and more than 12 years ago, the CDC completely dropped rehabilitation from its mission. Although prisoners in California have access to some vocational training for low-paying jobs, there has been little allocation of state funds for additional offender assessments and interventions. According to Corrections Today, “offenders’ unmet needs [nationally] include drug and alcohol treatment, mental health care, medical care for long-term illnesses, job training and placement, education, family issues, and criminological risk factors such as anti-social attitudes and values, poor problem-solving skills and criminal associations” (Mitchell & Solomon, 2002, p. 135).

According to the non-profit organization Sentencing Report (2002), “the decreasing emphasis on prison programs intended to provide skills training and counseling for prisoners for their eventual reentry into the community is leaving released inmates largely unprepared to successfully reintegrate into society” (¶1). In an interview with the Christian Science Monitor, James Fox, a professor of criminal justice at Northeastern University in Boston, stated that “because we have shifted our emphasis from rehabilitation to punishment, we are putting people back on the streets ill-prepared for dealing with free society . . . they have inadequate skills, bad attitudes, and are going back to their old neighborhoods” (Axtman, 2002, ¶6). To counter these rising recidivism rates, volunteers, community groups, private donors, non-profit organizations, and federal and state grants generally have provided most rehabilitation and transitional

programs in California prisons. For example, programs sponsored by various humanitarian groups have covered such topics as religion or faith, anger management, the arts, addiction, meditation and yoga, AIDS awareness, and cognition.

Coordinated, well-run rehabilitation and transition programs might help lessen recidivism rates by reducing anger, drug addiction, and violent tendencies as well as providing education, vocational skills, and transitional training (Butterfield, 2001). Rehabilitation has not only helped inmates function in the outside world, but it has been hypothesized that the number of disciplinary actions within a prison can be reduced with behavioral modification. With the overcrowding of California prisons and the state's high recidivism rates, many see rehabilitation as the only way to reduce the number of re-offenders—and to shift behavior as well.

Certain states such as Oregon and Missouri and, to a lesser degree, Pennsylvania, Ohio, and Washington have begun state-sponsored re-entry programs (Butterfield, 2001). Since the inception of comprehensive job training in Oregon prisons, the percentage of returning inmates in 2000 was down 47% from 1995. The behavior of prison inmates in Oregon also has improved, with a 60% reduction since 1995 in major disciplinary reports, including for fighting or attempted escape.

Rehabilitation at San Quentin State Prison

San Quentin State Prison—built in 1852 and one of California's only urban state prisons—was the focus of this research study because it had a newly launched rehabilitation "Success Program." The prison has been

> California's oldest and best-known correctional institution. The prison today includes a reception center for new commitments, a parole violator unit, general population units, and a minimum-security work crew unit. The state's only gas chamber and death row for all male condemned inmates are located at San Quentin. (California Department of Corrections, 2002, ¶1).

San Quentin sits on 432 acres in Marin County and has several levels of security—from maximum to minimum. The maximum-security area houses the "lifers" as well as approximately 650 inmates on death row.

The medium security area of the prison, known as H-Unit, was the location of the Success Program, whose participants were the focus of this research study. Beyond H-Unit is an area called the "Ranch," which is an open space with trailer housing units and no fences. It houses the lowest risk inmates.

The Success Program

San Quentin's first comprehensive rehabilitation Success Program, launched in H-Unit in September 2002, has provided more than 150 inmates with comprehensive education, self-development, and community service programs to help them become responsible members of the community once they are paroled. Volunteers and non-profit groups have held classes, which have been overseen by a Success Program committee.

The Success Program has consisted of a variety of volunteer and non-profit organizations administered by groups such as Speaking Circles, Non-Violent Communications, CenterForce, Siddha Yoga Meditation, and the Insight Prison Project. Together, these programs have dealt with a variety of inmate issues, including anger management, family support services, literacy,

health education, communications, spirituality and mindfulness, HIV awareness, and positive parenting.

The Insight Prison Project

The Insight Prison Project's classes make up a large component of the Success Program. Insight Prison Project believes that local community members have responsibility to be active participants in addressing how to deal with people who violate community norms. Insight Prison Project has promoted reconciliation, acceptance, and spiritual growth through deepening dialogue—for those on both sides of the prison walls.

Insight Prison Project has offered inmates help toward creating a successful transition from prison to the outside world. Its programs have focused on recovery, pre-parole planning, anger management, positive parenting, group therapy, and spiritual reflection. As part of the Success Program's community service mission, the latest addition to Insight Prison Project's programs was the Garden Program.

The Garden Program

The goal of Insight Prison Project's Garden Program was to transform a section of the prison yard in H-Unit into a garden. Research on horticultural therapy supports the notion that in the act of caring for plants, the qualities of responsibility and discipline transfer also to the interpersonal realm—that by growing plants, people also will "grow." The project has provided future parolees with an opportunity to do landscaping and gardening so they can connect with their own creativity, gain a sense of accomplishment and pride in their work, and be able to leverage these skills once they leave the prison system. This has been

the only community service-focused rehabilitation program at H-Unit that would manifest in a physical change to the prison yard itself.

Research Purpose and Objectives

On the Web site for Celestial Theraputic and Ornamental Gardens, Inc., Bruce states that “horticultural therapy is a process of utilizing plants and horticultural activities to improve the social, educational, psychological and physical adjustment of a person, thus nurturing the body, mind, and spirit while improving the quality of life.” Menninger, the famed psychiatrist and avid botanist who founded the Menninger Foundation in Topeka, Kansas, said that “gardening provides a meaningful emotional experience because it deals with life and the life cycle” (Mann, 2002, p. C1).

Although inmate rehabilitation programs utilizing prison gardens have not been widespread in the United States, some research supports the notion that prison gardens can positively impact participating inmates. However, little data have existed on the impact of a prison garden on the social climate of a prison yard.

The intent of this study, therefore, was to determine the impact of a Garden Program on the physical environment and social climate of a prison yard, from both inmate and staff perspectives. The research questions that supported this purpose were as follows:

1. What were inmate and staff opinions relating to the physical environment and social climate of a prison yard before and after the garden was planted?

2. What was the impact of the garden on the physical environment and social climate of the prison yard?

3. Were there any differences between inmates and staff?

4. Were expectations about the potential impact met?

Research Methodology and Instruments

The strategy of inquiry and analysis was a qualitative action research project spanning over a year and a half. The primary method of data gathering was qualitative, also utilizing available quantitative data as appropriate and available. Data collection included in-depth interviews with staff, inmate program participants, and an inmate control group, using open-ended questionnaires, process documentation, as well as photographs of the project's progress during implementation. Supporting quantitative data also were collected, including descriptive statistical data about number of lockdowns and disciplinaries (write-ups for inappropriate inmate behavior) during the project's research phases.

Data analysis consisted of thematic coding and a compilation of quantitative data. Confidentiality of the participants was upheld as a key ethical consideration, since the inmates and staff were under the purview of the CDC.

Research Setting and Participants

The research was conducted on site at H-Unit in San Quentin, described above. Both inmates and staff participated in the project. Further detail about the research setting and demographics of the study participants has been described in chapter 3.

Terms

In a prison environment, various terms are used to describe actions, behaviors, and settings. Prison-specific terms used in this research study are described below.

1. Administrative segregation or “Ad-Seg” (also known as the “hole”)—inmates who are put into solitary confinement because of violent tendencies or as protection from other inmates.

2. C-Files—central files of the inmates.

3. CDC 115’s rules violation report (disciplinaries)—writes-ups on inmates who have violated any number of prison rules. These reports can include anything from disobeying direct orders to assaulting another inmate or an officer.

4. Lockdown—all inmates are locked in cells or dorms without access to the yard. Lockdowns can be due to inclement weather such as fog, which impedes vision from gun towers, and disturbances caused by inmates. Inmates also are locked down during executions and visits from public officials.

5. Shotcallers—leaders of an illegal inmate group.

6. Search and escort officer—an officer responsible for maintaining order on a prison yard.

7. Custody officers—a peace officer defined by section 832 of the penal code.

8. Watches (job shifts): First watch—10:00 p.m.-6 a.m., Second watch—6 a.m.-2 p.m., Third watch—2 p.m.-10 p.m.

Overview of the Following Chapters

Chapter 2 provides a review of relevant literature on the larger issues of environmental psychology of prisons, observation and participation of nature, and the impact of gardens in various settings, including prisons. Chapter 3 discusses the research questions, the research design, and the data collection process. Chapter 4 provides the results of the qualitative and quantitative research based on thematic analysis. Chapter 5 provides research conclusions and interpretations as well as recommendations and implications, research limitations, and suggestions for future research.

Chapter 2

Review of the Literature

With populations and recidivism rates at an all-time high, there has been an increasing trend to provide rehabilitation options for inmates so they can become productive members of society once they leave the system—the overall mission of the Garden Program at San Quentin State Prison. Although studies have been conducted that illustrate the beneficial aspects of gardening as a form of rehabilitation and skills development (Rice & Remy, 1994; Flager, 1995; Cammack, Waliczek, & Zajicek, 2002; Migura, Whittlesey, & Zajicek, 1996), the impact of such environmental change efforts on prison inmates and staff has not been fully explored. In addition, research on behavior in prisons relating to the structural and social-ecological contexts of the prison environment has focused primarily on stress, overcrowding, health care demands, and privacy (Wright & Goodstein, 1989; Moore & Arch, 1981; Wener, Frazier, & Farbstein, 1985; Ostfeld, Stanislav, Kaso, & D'Atri, 1987).

Since the purpose of this research study was to determine the impact of a garden project on the physical environment and social climate of a prison yard, from both inmate and staff perspectives, several primary fields of study were the foci of the literature review. The review involved research on environmental psychology for a more thorough understanding of the prison setting—specifically how prison environments impact behavior of those who live and work there as well as the social climates they create. Also included were studies conducted on human observation and participation with nature—specifically the observation of nearby landscapes. Finally, data on participation in gardening and horticultural

therapy were reviewed in various settings, with an emphasis on prison gardening and horticulture programs in correctional institutions.

Environmental Psychology

Environmental psychology emerged more than four decades ago when psychologists began to "attend systematically to the study of people's interactions with their sociophysical surroundings" (Stokols, 1995, p. 821). However, it was in the 1960s that the principles of environmental psychology were clearly articulated by psychologists in studies of territoriality (Stokols, 1995) as the field's guiding principles were developed (Ittelson, Proshansky, Rivlin, & Winkel, 1974). From that point on, the field's evolution was influenced by psychologists with diverse backgrounds and in collaboration with architects, urban planners, geographers, and urban sociologists.

To understand this multidimensional field and how it relates to behavior in the prison environment, various areas of environmental psychology were explored such as the impact of the physical environment and social climate of prison environments on behavior.

Prison Environments and Their Relation to Behavioral Outcomes

The relationship between human behavior and physical and social environments has been studied in many institutional settings, such as residences, workplaces, hospitals, clinics, rehabilitation settings, and prisons. Research on prisons has included both the examination of inmates' perceptions of these environments—such as population density, housing design, the impact of those settings on prison populations (both behaviorally and attitudinally)—and the role personality and social context play on one's perception of the

environment. This literature review, however, has found no specific study focused on a prison yard environment's impact on incarcerated populations—only a mention that "limited access to outdoor space required greater regimentation and resulted in greater dissatisfaction among staff and residents" (Wright & Goodstein, 1989, p. 255).

Structural Features of Prisons and Their Relationship to Behavior

Research conducted by Wener and Olsen (1980) and Houston, Gibbons, and Jones (1988) specifically addressed how the design of new facilities—or changes to existing ones—might impact behavior. Wener and Olsen's (1980) study looked at how design affects behavioral settings at two "innovative, state-of-the-art pretrial detention centers" (p. 479). Living space—such as self-sustaining living units (with 40-50 people per room) as well as private rooms—served as the area of study. They collected attitudinal data using behavioral mapping techniques to examine what behavior occurred, when and where it occurred, and how many people were involved. It was found that inmates living in the private areas perceived these newer institutions to be superior to the others because they had more control over their environments. The non-institutional design—such as the use of colors, windows without bars, various textures, and a sense of light and air "made the units less hard and uncomfortable," (p. 487) as well as less stressful.

Research conducted by Houston et al. (1988) looked at whether positive alterations in physical environments at existing correctional facilities resulted in improved attitudes of correctional officers or prisoners. The construction of a new

detention center in Oregon served as the case setting. Two other existing facilities, where no design alterations were made, were used as the “control” jails.

The researchers used the Moos Correctional Environment Scale questionnaire to measure prison “climate” or the social environment of prisons (see further definition of Correctional Environment Scale below). Almost 500 staff and inmates were involved in the study. Results found that the data “do not indicate that broad and general improvement took place in the new jail while no improvement in the social climate occurred in the two ‘control’ facilities” (p. 463). This suggested that newer design did not positively impact inmate behavior. However, in their conclusions, the authors did question the validity of their findings since the Correctional Environment Scale was “not considered to be a perfect instrument for gauging correctional institution climate” (p. 458). In addition, the authors suggested that the timeframe between the new jail’s opening and the study’s implementation might have been inadequate to measure longer term behavioral outcomes.

Other studies have been conducted to better understand the impact of existing prisons’ structural features on inmates’ attitudes and behaviors (Wright & Goodstein, 1989; Wener et al., 1985). The impact of physical features such as cells versus dormitories on crowding and privacy, issues of environmental control, and architectural aesthetics also have been reviewed (Wright & Goodstein, 1989). According to these studies, unit housing privacy issues were indicators of inmates’ successful adjustment in a prison environment. Specific behavioral outcomes and their association to various prison environments—such as crowding and privacy—are presented in the next section.

Crowding and Privacy

Crowding of prisons, which is impacted by structural design, also has been an issue considered in inmates' health and behavioral attitudes. Architects Moore and Arch (1981) did a study on health care service demands, which considered various types of internal prison structures and their impact on inmates' health. They determined that much benefit could be derived from "humanizing" prison environments by providing more privacy.

Longitudinal studies (Ostfeld et al., 1987) have found that crowding in prisons can produce physical symptoms such as increased blood pressure, stress, and illnesses. Studies mentioned below also have supported the notion that overcrowding leads to increased rates of disciplinary infractions, deaths, psychiatric commitments and reconviction rates.

Smith (as cited in Wright & Goldstein, 1989) found that crowding can increase stress because it reduces inmate resources. As Wright and Goodstein (1989) suggested, "an individual's sense of personal control and the social group's ability to support the individual might counteract negative potential of congestion" (p. 258). But if there is a shift in the social organization, then the propensity for aggressiveness, avoidance, or withdrawal might increase.

Issues of "Control"

Those who live in prisons are not only confined to the institution, but they live under relatively adverse conditions with strict controls. Research has shown that inmates might get frustrated and show resistance if they have had no control whatsoever over their physical environment; conversely, if they have some

control, there might be positive effects (Wener & Kaminoff, 1983). “The common characteristic total institutions have to offer their occupants is severe loss of control of life’s outcomes” (Moore & Arch, 1981, p. 19).

In the study conducted by Wener and Olsen (1980) mentioned above, inmates noted some of the best features of the new facilities were the ability to isolate themselves in rooms when they wanted. “Environmental problems . . . frequently indicate areas where control is lacking” (p. 492). Crowding and associated privacy issues are directly related to issues of control. Living in dorms rather than cells also produces higher levels of stress as inmates have less control over their living space. Within this context, they are more likely to be subjugated to social density than spatial density (Paulus, Cox, McCain, & Chandler, 1975; Wright & Goodstein, 1989; Wener & Olsen, 1980).

Social Climates of Prisons and “Prison Ecology”

As the data above have suggested, the physical and social environments of prisons have been interrelated. Inmates’ behavior has been impacted by their internal capacity to adjust to the physical environments and by the social and cultural contexts of prisons. As Wright and Goodstein (1989) suggested, the ways in which people interact with their environment have as much to do with internal resources (for example, health, problem-solving skills, beliefs, experiences) as with external resources such as social and materials support. According to their research, “stress results at the point of transaction between environmental and/or internal demands and an individual’s adaptive capacity” (p. 260).

First attempts to study the social climates of prison environments included studies in the 1960s and 1970s by Moos (1968, 1975) to determine how the social climate of prison, might influence inmates' behavior, mood, health, well-being, and development. The Correctional Environment Scale instrument was developed in order to study this phenomenon. It has been used extensively to measure differences in prison environments and the impact of program or administrative changes on inmates (Wright & Goodstein, 1989) as well as how climate differences create behavioral differences (Toch, 2002). However, because of issues with the conceptual and operational definitions of "climate," as well as the validity of the instrument's nine subscales (Wright & Boudouris, 1982), its legitimacy as a complete measurement tool has been questioned (Wright & Goodstein, 1989; Houston et al., 1988; Toch, 2002).

Social psychologist Toch has addressed the validity of the Correctional Environment Scale by developing an empirical transactional assessment of prison environments that has been based on a correspondence between the inmates' individual needs and an institution's ability to meet those needs. "The transactional perspective . . . assumes human uniqueness and expects important needs to vary significantly within the same context" (Toch, 2002, p. 6). Based on Toch's research, his Prison Environment Inventory has used seven dimensions to measure the impact of environment on inmates, including privacy, safety, support, emotional feedback, social stimulation, activity, and freedom. His research has concluded that in order to cope and survive in stressful prison environments, a person's environmental requirements vary depending on differences in personal experiences and motives as well as wants or needs.

Theoretical Trends in Environment-Behavior Research

According to Stokols (1995), the field of environmental psychology has not necessarily shifted in orientation; rather, it has been a process where theoretical prescriptions have been accumulated and new ones have been created or differentiated. Developments in the field have increased in diversity and complexity over the years. They have moved from a narrower realm of man's view and interaction with surrounding environments based on personal factors and behavior to transcendent or transactional views, accounting for reciprocal interactions between people and their environments. This approach has suggested that individuals both influence and are influenced by their environments.

This transactional approach, having emerged from the "interactive" or "organismic" perspective (Werner & Altman, 1999), has allowed psychologists to observe and study the interactions between people and events or settings to better understand the social ecology of their person-environment transactions (Wright & Goodstein, 1989). As Werner, Altman, and Brown (1992) defined it:

> This perspective treats people and places as inseparable, mutually defining, and dynamic. This holistic view is underscored by the emphasis on formal cause, a relatively underutilized view of causality in the social sciences; thus, we tend to describe patterns of interconnection among variables rather than examining which variable led to or 'caused' another in an antecedent-consequent fashion. (p. 299)

The longitudinal research of Zamble and Porporino (1988) on coping, behavior, and adaptation of prison inmates has shown that behavior cannot be predicted on local conditions alone; personality also must be taken into account. They believe the most interesting variance lies in the interaction between internal

and external environmental factors. This view includes how people transact (for example, experience and action) with their “diverse physical, interpersonal, and sociocultural environments” (Wapner, Demick, Yamamoto, & Minami, 1999, p. 305). Stokols (1999) noted “theories of environment and behavior should address the interdependencies that exist between the ‘physical’ and ‘social’ variables and design interventions” (p. 272). The dynamic relationship between individuals and built or natural surroundings has been emphasized within the transactional view (Werner & Altman, 1999).

It is within this transactional or holistic systems view that environmental psychologists and others have looked at the interdependencies between people and the natural world. They have studied nature’s impact on human behavior—through observation and participation with nature—and man’s impact on nature. From the understanding that nature and man coexist in a natural world, Werner and Altman (1999) suggested that “the transactional view invites scholars to take a broader, more holistic view of phenomena, to consider the larger spaces, such as nature, in which we are embedded” (p. 36). Bonnes and Bonaiuto (2002), suggest that the emergence of our understanding about the about the reciprocity between man and nature and the impact of human activities on the natural environment, originally led to the environmental movement.

Observation of Landscaped Environments

Relevant literature also included studies on man’s observation of nature, specifically urban landscapes that most closely resemble the type of external environment at San Quentin State Prison. Although there were no studies found on the observation (only participation) of landscapes and gardens within a prison

system, there has been research conducted on the human response to and perception of vegetation and landscapes (Ulrich, 1986; Ulrich, Simons, Losito, Miles, & Zelson, 1991; Kaplan & Kaplan, 1989). While research indicates a higher propensity for recovery from stress in natural (wilderness) settings, there also is evidence to suggest that viewing landscaped areas in urban settings is beneficial to observers.

The environmental psychologists Kaplan and Kaplan (1989) have described urban landscapes as “nearby nature”—that of parks, streets, or yards. They have conducted studies using methodology called the category-identifying methodology that have examined individual responses to vegetation and landscapes.

The category-identifying methodology has analyzed people’s preferences for natural environments by examining patterned responses to natural scenes. It indicates that preference is highly personal and contextual and that “humans interpret their environment in terms of needs and prefer settings where they are likely to function more effectively” (Kaplan & Kaplan, 1989, p. 69). They also found that differences in preferences for natural environments include variables such as familiarity with geographic circumstances of residence, culture, subculture, ethnicity, and formal knowledge or expertise.

Another environmental psychologist, Ulrich (1983), has looked at people’s physiological as well as psychophysiological responses—such as heart rate, blood pressure, muscle tension, and brain waves—in response to a variety of landscapes, including urban ones. Ulrich contends that people vary in their responses to landscapes, depending on their behavior, cognitive states, thinking,

and neurophysical activity. In research published in 1986, he studied the affective and physiological responses to urban versus natural environments as well as built settings in those environments. He suggested “affective responses such as preference are central to thought, memory and meaning, and behavior” (Ulrich, 1986, p. 31).

Ulrich (as cited in Lewis, 1996) analyzes landscape preference using a scale that measures six variables that affect the informational qualities of a landscape. They include focal points within a landscape, complexity of elements that create patterning, depth and openness, ground texture, detected vista (entering a scene would reveal more information than can be seen), and appraised threat of danger.

Considering the data presented in the previous section, interaction with prison environments has been shown to increase stress because of crowding, lack of privacy, control issues, and social climates. What Ulrich (1986) has shown was that “people may benefit most from visual encounters with nature when they are uncomfortably stressed or anxious” (p. 38). An individual’s context or learning about the environment also can impact the way in which one has viewed one’s surroundings (Ulrich & Parsons, 1990).

In Ulrich’s (1984) study at a hospital, he found that those with “tree views” from hospital windows have shorter post-operative stays, fewer negative comments, and tend to have lower scores for minor post-surgical complications. In Moore and Arch’s (1981) study of a prison environment’s effect on health care service demands, they found a strong relationship between inmates’ use of the health care facilities in prison and cells with a view. Those who had views of

other inmates sought health care more often than those with natural views. Kaplan and Kaplan's (1989) research results also indicate that people with access to "nearby nature" are healthier than those who have not had that access.

Ulrich (1986) does, however, point to the continued need for expanded empirical studies that measure physiological responses and behaviors rather than verbal measures. With more evidence, he supports the notion that observing natural scenes (whether they be purely natural versus landscaped) can create a healthier, more satisfied individual. Because most research has generally focused on the impact of gardening on people (active engagement with nature), he suggested that additional research be conducted on man's "passive interaction" with plants (Parsons, Ulrich, & Tassinary, 1994).

Theoretical Perspectives on People-Plant Relationships

In addition to the studies conducted on the observation of nature and landscapes, there are several theories surrounding benefits of "people-plant relationships" (Flager & Poincelot, 1998; Relf, 1994), including that of evolution, learning, and "overload and arousal" (Ulrich & Parsons, 1990, p. 95). Some have taken the position that humans have a psychological and physiological response to plants because the human species evolved primarily from natural environments (Ulrich, 1983; Kaplan & Kaplan, 1989; Orians, 1986). They suggest that people's response to nature and landscape preference also can be mapped back to adaptive behavior that was inherent in the species' origins (Relf, 1994, p. 23).

It also has been assumed that culture and learning can impact one's experience of the observation of nature—for instance, an inner-city child might

have a different response to arboretums than those who work there (Lewis, as cited in Flager & Poincelot, 1998). This theory dictates that response to plants might be a result of early childhood learning experiences or cultures in which people are raised. However, it does not take into account that people around the world have similar responses to nature despite cultural and geographical differences (Relf, as cited in Flager & Poincelot, 1998).

The overload and arousal theory discussed by Ulrich and Parsons (1990) suggests that the modern world creates a harsh environment of noise, movement, and visual complexity that can overwhelm and hence overstimulate people. The less complex, natural plant environments have been shown to provide a more calming, less stressful alternative to the man-made ones.

Participation with Gardening

Since participation with nature—in the form of gardening—has been the essence of the Garden Progam at San Quentin, literature also was reviewed about the gardening process and people-plant relationships. Specifically, the impact of gardening and horticultural therapy on various populations—including prison inmates—has been addressed.

The term “horticultural therapy” evolved in the early 1900s when Menninger’s psychiatric patients became involved in gardening as a form of therapy at his institute (Lewis, 1992). The related study of people-plant relationships evolved from the field of environmental psychology, when Kaplan pioneered the first study in 1973 about the psychological benefits of gardening, using a Qualitative Environmental Preference Questionnaire to determine the satisfaction of gardeners.

Lewis (1992) described gardening as the process of working with plants, flowers, lawns, and shrubs that requires a nurturing of living things and personal involvement in the creation and maintenance of gardens. This process requires patience, care, and an investment of time and energy. Plants are living; when planted, they are often dependent on human care and sometimes survival. It has been this vein of nurturing nature that can strike a “deeply personal chord” with the grower. As Lewis stated, “ . . . the strength of gardening lies in nurturing. Caring for another living entity is a basic quality of being human” (1992, p. 57).

In order to better understand the relationship between people, plants, and gardening, the field has been studied from a variety of perspectives and settings including the context of various communities and the use of gardening for rehabilitation and healing purposes (Lewis, 1996; Simpson & Straus, 1998). Because the prison environment is a community and rehabilitation has been the overriding mission of the Garden Program, the literature for these topics was reviewed in detail and then within the specific context of the prison environment.

Community Gardening

Gardening in a variety of community settings—and the changes that occur to the community when the garden has been planted and maintained—has been studied extensively, including urban low-income housing areas, school communities, and prisons. Although gardening can be an individual and highly personal effort, the process also lends itself to group activity. In areas such as low-income neighborhoods and ghettos, such social activity has expanded beyond the arena of horticulture to cooperation and social intervention (Lewis, 1992). Through gardening in low-income areas or those areas with social or

economic distress, the resulting good will and aesthetically improved neighborhoods can have long-term impacts, including enhanced self-esteem of participants, a source of pride, improved feelings about the communities in which people live, and a new sense of community where it did not exist before. Study areas such as urban ghetto gardens and prisons have been chosen because they have been in stark contrast to the surrounding environments.

Lewis (1996) described changes that have taken place in various communities because of collaborative gardening or landscaping projects, including those sponsored by the New York Housing Authority. The Pennsylvania Horticulture Society also has played a role in helping to rebuild communities through gardening. Research by Brogan and James (1980) found that the association between the psychosocial health of a community and its physical and sociocultural environment demonstrated that physical and social characteristics were equally important in determining the variations in the community's social health.

Community gardening also has been seen as a transformation from individualistic to collective view and care. Lewis (1996) postulates that gardeners work with each other to create beautification programs by establishing an environment of sharing and collaboration that can lead to both personal and neighborhood transformation.

A number of studies were presented at a symposium on the Role of Horticulture in Human Well-Being and Social Development in 1990 that indicate the variety of benefits of community gardening (Lewis, 1992; Patel, 1992; Ulrich & Parsons, 1992) in various neighborhoods. Related research indicates that

despite differing social and economic conditions of various communities and individuals with regard to gardening, benefits are common to all participants.

Rehabilitation and Healing with Horticultural Therapy

The healing and transformational qualities that gardening can produce for communities also have been central to the concept of horticultural therapy. For centuries, plants have been used medicinally to promote physical and, in some cases, psychological healing. Not until this century, when the Menninger Institute and Kansas State University developed the first horticultural therapy curriculum, did a new profession emerge that integrated therapy with gardening. Karl Menninger stated:

> Horticultural therapy . . . brings the individual close to the soil, close to Mother Nature, close to beauty, close to the mystery of growth and development. It is one of the simple ways to make a cooperative deal with nature for a prompt reward. (Mattson, 1992, p. 162)

The primary purpose of horticultural therapy has been more intimate than that of community gardening since it was developed to "promote the well-being of individual patients, and plants become by-products of the healing process" (Lewis, 1996, p. 75).

In this relatively new field, the relationship between people and plants has been taken one step further by using plants and plant products to improve the "social, cognitive, physical, psychosocial, and general health and well-being of its participants" (Simpson & Straus, 1998, p. xxiii). On a formal basis, the role of the horticultural therapist has been to work with a patient and the gardening process to take advantage of a person's capacity for healing. Gardening tasks are customized, depending on the patient's specific ailments, mental or physical

disabilities, or handicaps. Although programs and settings for horticultural therapy can differ—for instance vocational, social, or therapeutic program types (Haller, as cited in Simpson & Straus, 1998), the goal is the same—to use plants and gardening in a way that promotes emotional and/or physical healing.

Some of the general benefits noted by the research mentioned above include health maintenance, stress reduction, appropriate emotional responses, social interaction, independence, and the building of self-esteem (Mattson, 1992; Haller, as cited in Simpson & Straus, 1998). Mattson (1992) also contends that horticultural therapists consider themselves agents of change because they mediate the process by which people recover, adjust, or cope with impairments, disabilities, and handicapping conditions.

Gardening in Prisons

Gardening in prisons has had a long history, having started in the 1800s as a food source for prison populations and, more recently, as a form of rehabilitation and vocational skills training for prison inmates. The impact of these projects, however, has received little evaluation over the years. The context and validity of the research conducted has varied greatly, as have the study groups and settings (men versus women, adolescents versus adults, county jails versus state prisons). However, somewhat relevant studies have been conducted on gardening programs in prison. They have included a study on the ecological context of horticultural programs in prisons (Rice, 1993; Rice & Remy, 1994), the role of horticulture programs in training correctional youth (Flager, 1995) and juvenile offenders (Cammack et al., 2002), and the effects of a master gardener

program on the self-development of female inmates of a federal prison camp (Migura et al., 1996).

Rice's (1993) dissertation evolved from a research study conducted on San Francisco County Jail male and female inner-city inmates that examined the ecological context of their lives prior to incarceration and their subsequent participation in the San Francisco Garden Project during their jail tenure. He hypothesized that an inmate's life experience prior to prison—such as the inner-city environment, socio-demographic influences, traumatic life events (and associated impact on self-development), and substance abuse history—are relevant in considering effective horticultural therapy treatments.

Inmates who participated in the study were randomly selected participants in Cathrine Sneed's Garden Project in San Francisco as well as a control group not in the project. The study found participants' early experiences with regard to the above-mentioned variables in inner-city settings "vastly impeded subsequent psychological, social, and physical development" (Rice, 1993, p. 217). In consideration of the inmates' background, he made the assumption that working with plants would be a benefit and help in transforming negative patterns to positive ones. However, Rice's methodology did not include a direct correlation between the impact of gardening or horticultural therapy and behavioral or attitudinal shift.

Catherine Sneed's Garden Project, started more than 10 years ago with the support of the San Francisco County Jail, now has more than 125 employees (ex-inmates) who cultivate and grow vegetables on many acres of land. Originally, when the project began, inmates worked in the fields yet still returned

to the prison. Sneed then developed a post-release program for former offenders so they could receive additional counseling, structure, and continuing education while maintaining the gardens (San Francisco Garden Project, n.d.). The project's participants have continued to grow and harvest organic vegetables that are donated to working-class families and seniors. No empirical studies were found—other than Rice's (1993)—that measure the program's success.

Other studies have included a review of the effects of vocational horticulture education and training on the self-development of female inmate participants in a minimum-security federal prison camp (Migura et al., 1996). In this study, the areas of control, self-esteem, and life satisfaction were examined using two groups. One group consisted of inmates participating in the master gardener program that were not randomly assigned; the other control group was randomly assigned. A variety of scales associated with the above-mentioned characteristics were used to determine scores. Preliminary data demonstrated that although the female inmates did not statistically improve in relation to control, self-esteem, and life satisfaction, the levels of these internal loci were maintained throughout their program participation. Although both groups were tested, the findings did not mention control group outcomes. The authors of this study suggested that other instrumentation includes "work ethic inventories, anxiety and stress inventories, and horticulture aptitude inventories, as well as longitudinal studies to examine the longer-term effects of the master gardener program" (p. 75).

In their 2002 study, Cammick et al. considered the impact of the Green Brigade vocational and rehabilitative horticultural program for adolescents from

the perspectives of horticultural knowledge and environmental attitudes. In addition to classroom instruction and hands-on activities being useful for improving horticultural knowledge, their attitudes toward animals and plants were increasingly friendly by the project's conclusion. According to the researchers, "no significant differences were found in environmental attitude scores based on gender, ethnicity, age or grade for the participants of the Green Brigade Program" (p. 80), which suggests that the program effectively transformed attitudes among males and females of various ages and regardless of race.

Summary

In this chapter, research on the social and physical implications of prison environments was reviewed to present the context for this research study. The structural design of prisons has created overcrowding as well as a lack of privacy and control for those who live there. Aside from the already predetermined psychology and physiology of inmates, upon entering a prison environment, they experience increased stress as a characteristic of incarceration.

Within the context of the transactional or "holistic" approach to studying prison environments, there have been systems where inmates' behavior and attitudes can be affected by the setting and social climate—and vice versa. No empirical studies were found that examined the physical settings of prison yards or how building a garden in a yard might impact the yard's social climate.

Because this research study included a control group of inmates and prison staff who did not actively participate in the implementation of the Garden Program, literature reviewed also included observation of landscapes. Reaction to "nearby nature" and landscapes included both prescriptive studies as well as

those which measure human biophysical response to various scenes. The data suggest that viewing landscaped areas can be stress-reducing and satisfying. However, studies were not found specifically linking non-participant observation of prison gardens and surrounding landscapes.

The impact of gardening on individuals and communities also was reviewed. Prisons are communities, and many of their residents come from inner-city environments, where stark physical surroundings are the norm—hence the review of literature on community gardening in urban areas. Significant data also have been gathered on how to conduct horticultural therapy programs as healing modalities. After thorough research, however, few empirical studies were found that have actually measured the impact of these programs on various populations, including prison inmates and staff. This indicated the need for further study on the impact of the garden project on the physical environment and social climate of a prison yard.

Chapter 3

Methods

This chapter reviews the methods used in this research study to determine the impact of a garden on the physical and social environments of a prison yard, from both inmate and staff perspectives. The research purpose and setting are described, followed by the research design. Research design encompasses pre-planning and pre-work, as well as data collection before, during, and after the garden's implementation. Finally, a description of the data analysis is presented.

Research Purpose

As mentioned previously, the intent of this study was to determine the impact of a garden project on the physical environment and social climate of a prison yard, from both inmate and staff perspectives. The research questions that supported this purpose were

1. What were inmate and staff opinions relating to the physical environment and social climate of a prison yard before and after the garden was planted?

2. What was the impact of the garden on the social-physical environment of a prison yard?

3. Were there any differences between inmates and staff?

4. Were expectations about the potential impact met?

Research Setting

Approximately 1,000 inmates lived in the medium-security area of the prison, known as H-Unit, which also was the location of the Success Program. The area of H-Unit had four inhabited dorms, an administration building, and a

chow hall which form a rectangle around the prison yard. Approximately 150 men out of 200 who lived in Dorm 1 participated in the Success Program. Twenty-five of those men, of various races, had been involved with the Garden Program on an ongoing basis. Several of the program's original participants have been paroled since the program's inception.

The two-acre prison yard, at sea level next to San Francisco Bay, was made up of gravel, asphalt, and a lawn area. Since there were no trees in the yard due to security reasons, the area was completely exposed to the elements. The yard included aluminum tables connected to benches as well as exercise equipment (such as pull-up bars and horseshoe pits), basketball and volleyball courts, and a sweat lodge for the American Indian population. The area is surrounded by two 20-foot-high parallel chain-link fences and razor wire and is overseen by several guard towers. Underneath one of those towers, near the entrance to the unit, was the area designated for the garden. It was a rectangular area of about 1,200 square feet directly behind the horseshoe pits and adjacent to the visitor's center and unit entrance. During the summer of 2003, it had been planted with pumpkins and sunflowers, which were later harvested for display in the visitor's centers throughout the prison.

According to the former associate warden of H-Unit, the function of the prison yard was to provide inmates with a place to socialize and exercise. It also was used as an outside staging area in the event of a riot inside the dorms as well as for inmate movement from all of the dorms to the chow hall and back during mealtime. Because of the dormitory living conditions (200 men within one

room in each dorm), the prison yard offered additional area where a variety of activities could take place.

Research Design

The action research project occurred in several phases over a period of a year and a half. Project phases were as follows:

1. Pre-planning and pre-work was conducted to set the stage for the garden implementation. This consisted of relationship building, outreach to key stakeholders, and obtaining approval to conduct research from the CDC.

2. Pre-garden data gathering which included study group selection, collection of demographic data, interview question development, and pre-garden data collection in the form of interviews.

3. Logistics coordination for the garden implementation.

4. Post-garden data collection (interviews).

The actual action research project began during initial participation in the Success Program committee meetings in September 2002. Garden implementation occurred in December 2003, and final data were collected in February 2004.

Pre-Planning and Pre-Work

Pre-planning and pre-work included building relationships with key stakeholders, community outreach to raise funds for materials, and approval to do research from the CDC.

Building relationships with key stakeholders. In late August 2002, the Insight Prison Project—one of the non-profits operating rehabilitation programs at San Quentin—sought to develop a landscaping and gardening program at San

Quentin. The Garden Program is one program within a larger rehabilitation effort called the Success Program (as described in chapter 1) which was initiated in August 2002. Since that time, the following activities were conducted in the prison to lay the groundwork for the yard beautification efforts:

1. The development of relationships with key stakeholders in the prison. This included participation in meetings of the Success Program subcommittee—volunteer rehabilitation programmers, management, custody officers, inmates participating in the Success Program, and inmates on the men's advisory council.

2. In conjunction with the landscaping and gardening volunteers, curricula were developed and classes facilitated. Classes offered were landscape design, soil amendment, irrigation, plant design, budgeting and planning, permaculture, and sustainable gardening. Inmates actively participated in all design elements of the program.

3. Project status memos also were presented to the warden on a regular basis.

Community outreach. Local community activities also were conducted to build support for the Garden Program, including

1. The recruitment of local community volunteers to assist with the project, including landscaping, gardening, and labyrinth design experts.

2. The implementation of a community and media outreach effort to raise program awareness, garner additional funds, and involve community members on a local level. The first article about Insight Prison Project—and description of the Garden Program—was published in the Marin Independent Journal on December 30, 2003 (Ashley, 2003).

3. The management of fundraising efforts to pay for program materials.

4. Making presentations to local community groups, conferences, and individuals to gain program support.

These relationship-building and program activities afforded extraordinary access to those living and working at the prison. This collaborative strategy also set the foundation for the project support from both inside and outside the prison walls, despite organizational and external environmental changes such as Insight Prison Project's budget constraints in a difficult fundraising environment and possible construction of a new death row building outside of H-Unit. Because of the lack of significant available funds and unexpected political circumstances, the project team scaled back plans twice to the final redesign of a smaller 1,200-square-foot area of the prison yard (see Appendix A for garden redesign drawing).

Approval to conduct research from CDC. Approval had to be obtained from the CDC in order to conduct the research with state-sanctioned inmates and prison staff at San Quentin. This approval process began in mid-February 2003, when a formal project proposal was sent to the warden. After her approval, the CDC approved the research methodology several months later. The following application procedures were required and met:

1. Initial memo to the warden (who forwarded the proposal to the CDC).

2. Request from the CDC for additional documentation.

3. Submittal of additional documentation.

4. Review of documentation by CDC Research Review Board.

5. Request for Human Subjects Clearance Form.

6. Submittal of Human Subjects Clearance Form.

7. Final approval to conduct research.

Pre-Garden Data Gathering

Pre-garden data gathering took place over a period of several months from October to December 18, 2003 (when the garden was planted). It consisted of selecting the study group populations, developing the interview scripts, and conducting the first phase of interviews prior to the garden's implementation. Included in this phase of data collection was audiovisual documentation.

Interview population. The three groups that voluntarily participated in the research study were inmates in the Garden Program (Study Group 1), a control group of inmates not involved in the program but who lived in H-Unit (Study Group 2), and unit staff (Study Group 3). The selection process for each group, which consisted of a series of activities, is described in Table 1.

Inmate participant and control group demographics. Demographic data as well as historical information about the inmates' backgrounds prior to and during their incarceration were gathered from the inmates' C-Files (see Table 2). Requested inmate files were provided by the file clerk, and where available, data were collected about age, race, length of prison term, offenses, family backgrounds, schooling, and any other related information.

Using the selection criteria in Table 1, the inmate participants and control group were determined. After doing the demographic research, it was determined that the inmates participating in this study generally were incarcerated for assault; first and second degree burglary; grand theft; robbery; drug- and alcohol-related offenses; tax evasion; spousal abuse; and sexual crimes such as rape,

Table 1

Selection Criteria

Research Subjects	Selection Criteria	Selection Process
Research Study Group 1	Volunteers from this class who were not being paroled until at least spring 2004. English-speaking research subjects only. Strong commitment to staying in the program throughout the timeframe. Permission from them to access their C-Files. At least seven inmates participating in the Garden Program, with two to three alternates.	1. A class was conducted to present an overview of the thesis research project (see Appendix B). 2. Once inmates understood the project's background, those with longer term sentences were asked to stay in the room. Those with shorter sentences were asked to leave. 3. Those who spoke no English were asked to leave. 4. Inmates were then informed that research would include access to their C-Files. They were met with separately to determine comfort levels with access to that classified information. 5. A total of ten inmates volunteered. One dropped out halfway through the study, due to medical reasons. 6. Once inmates volunteered for the project, they also signed a consent and release form (see Appendix C).
Research Study Group 2	As possible, select inmates with similar demographics to research subjects in Study Group 1. English-speaking research subjects only. Strong commitment to remaining part of the research study until it was completed. Have at least seven inmates in the group with several alternates.	1. Worked with staff and counselors to identify potential applicants of diverse age and ethnicity. 2. Reviewed C-Files to determine demographic information. 3. Met with applicants in groups to determine their potential interest in the study. 4. Inmates were invited to a brief presentation about the project. The process, timeline, and rules of engagement were discussed. 5. Eleven inmates volunteered for the program, although data from nine were available. After the first round of interviews, one inmate had been paroled and the other was moved to a different area of the prison. 6. Once inmates volunteered for the project, they also signed a Consent and Release Form, required by the CDC.
Research Study Group 3	Cross-section of rankings (captain, sergeant, lieutenant, etc.), with a consideration of racial and male-female diversity. At least one officer from each dorm (including those not in the success dorm). Combination of second and third watch commanders and custody (morning-afternoon and afternoon-evening). Selection of counselors who do inmate classifications.	1. To solicit staff volunteers, a presentation was made during third watch staff meetings where the research project was described in detail. 2. Those interested in participating filled out a participation form (see Appendix D). 3. To solicit staff volunteers from second watch, the lieutenant distributed a project description and form for his staff to fill out if they were voluntarily interested in participating. 4. Eight staff volunteered to participate in the research study. 5. Once staff and custody volunteers were selected, they then signed the Consent and Release forms (see Appendix E).

C-Files = central files of the inmates; CDC = California Department of Corrections

Table 2

Inmate Participant and Control Group Demographic Data

	Inmate Participants		Control	
Demographics	*N*	%	*N*	%
Participant Age				
NA	0	0%	0	0%
20-29 years old	0	0%	0	0%
30-39 years old	3	33%	2	22%
40-49 years old	3	33%	5	56%
50 and older	3	33%	2	22%
Race				
Black	3	33%	3	33%
White	3	33%	4	45%
Mexican	3	33%	2	22%
Length of Sentence				
Less than 1 year	1	11%	0	0%
1 -2 years	2	22%	3	33%
More than 2 years	4	45%	5	56%
More than 5 years	1	11%	1	11%
More than 10 years	0	0%	0	0%
More than 20 years	1	11%	0	0%
Schooling				
Unknown	2	22%	3	33%
High School Dropout	2	22%	2	22%
GED	2	22%	1	11%
High School Graduate	2	22%	3	33%
College Graduate	1	11%	0	0%
Previous Gardening, Landscaping				
Yes	7	78%	8	89%
No	2	22%	1	11%
Previous Knowledge of Yard Program (C Only)				
N/A	0	0%	3	33%
Yes	9	100%	1	11%
No	0	0%	5	56%

N = 9

lewd and lascivious behavior with a minor, and child battery and molestation. No men convicted of first- or second-degree murder were part of this study, although they were present in the unit.

Although there were no readily available statistics that indicate percentage of parole violators and repeat offenders on the unit, the sergeant in charge of the unit's historical data estimated more than 75% of inmates on this unit were parole violators.

Staff demographics. Staff and custody positions at San Quentin range from administrative or managerial staff (running of the prison, various units) to custody staff (maintaining the safety and security of inmates and other staff within housing blocks and throughout the prison). With the exception of one counselor, who classified inmates for appropriate placement within the prison, all staff interviewed for this research project included lieutenants, sergeants, or yard or dorm officers on H-Unit.

Thirty-eight percent of staff participating in the research study had historically worked their way through the ranks from a variety of custodial management and staff positions within San Quentin to the more challenging units of condemned row and administrative segregation. One search and escort officer had extensive experience and knowledge of prison gang activity. Other staff was fairly new to the system and had only worked on H-Unit. Table 3 reflects additional detail about the demographic makeup of the staff interviewed in the study.

Ethical considerations during participant selection. Serious consideration was given about how to access the classified files of the inmates participating in the Garden Program without putting long-standing trust at risk. In order to accomplish this, the research process was fully explained in a class setting so inmates could understand the logic behind using data in the C-Files to gather demographic and historical information about their backgrounds.

Inmates were then individually interviewed to ascertain their decision about participation, rather than doing this in the group setting. Had an inmate refused to volunteer within a group setting, other inmates might have made

Table 3

Staff Demographic Data

Demographics	*N*	%
Participant Age		
20-29 years old	1	13%
30-39 years old	3	37%
40-49 years old	2	25%
50 and older	2	25%
Race		
Black	1	13%
White	5	62%
Mexican	0	0
Other (Asian-American, Indian-American)	2	25%
Sex		
Male	7	87%
Female	1	13%
Number of Years at San Quentin		
Less than 1	1	13%
2-4 years	2	25%
5-9 years	2	25%
10-19 years	2	25%
20+ years	1	13%
Previous Gardening, Landscaping, or Farming Experience		
Yes	7	87%
No	1	13%
Previous Knowledge about the Garden Program		
Yes	6	75%
No	2	25%

N = 8

assumptions about reasons for refusal (for example, type of offense) that could have social and safety ramifications for that inmate. In addition, this decision-making approach helped the inmates fully understand how their data were to be used and for what purposes.

It also was made clear during the volunteer selection process that all interview results would remain confidential and under lock and key. Inmates and staff also were asked to keep the interview content to themselves to maintain the project's integrity. The required Consent and Release forms noted these provisions.

Interview Scripts (Pre- and Post-Garden)

After selection of the study groups, the pre- and post-garden interview scripts for all groups were then developed. The first set of pre-garden interview questions (Appendixes F & G) was designed to gather information on the overall appearance of the prison yard, its functions, as well as the groups' likes, dislikes, and associated stresses. Questions were designed to elicit thoughts, feelings, and behaviors of inmates and staff. Interview scripts were short, simple, and open-ended.

The set of post-garden interviews (Appendix H) was designed to elicit responses from inmates and staff about the impact of the garden, whether expectations had been met, and whether change had been accomplished. It also was designed to garner information about any changes to previously mentioned thoughts, feelings, or behaviors.

In-Person Interviews

All interviews were conducted inside the administrative building of the H-Unit complex. In order to guarantee the confidentiality of the interview content, they were held in private rooms—either in the Success Program office, the administrative conference room, or selected empty offices.

Data collection included confidential in-depth interviews with staff and inmates using open-ended questionnaires mentioned above. These face-to-face interviews were audiotaped with handwritten notes as backup and then transcribed onto the computer. A clearance from the warden's office was required to bring the tape recorder on site. The interview protocol included

instructions to the interviewer (including opening statements), key research questions, and probes to follow key questions.

Audiovisual Documentation

Prior to the garden being planted, photographs were taken of the selected area to compare to later post-garden photographs (see Appendix I). Clearances were obtained from the warden's office for the camera.

Planting the Garden

After more than a year of planning, changed designs, and program restructuring, the garden was planted over a four-day period, from December 18-21, 2003. Photos were taken throughout the process in order to record its progress.

Post-Garden Data Gathering

Follow-up interviews began exactly one month following the garden planting, spanning from the end of January through mid-February 2004. Data were collected from inmates and staff about the impact of a garden project on the physical environment and social climate of the prison yard. Following the garden's implementation, the same methods of collection were used as in the first phase of data collection. In addition, statistical data also were gathered about the number of disciplinaries and lockdowns two months prior to garden implementation (November-December 2003) as well as two months post-garden (January-February 2004).

Data Analysis

Data analysis included content analysis of the pre- and post-garden interviews by general themes of physical environment, social climate, and

expectations. Inter-rater reliability tests were conducted on all data sets, to match at least 75%. Using the thematic coding process to review and analyze the qualitative data, the results are presented in chapter 4. In addition, quantitative data also are presented in the next chapter. Data were verified using the following methods: “triangulation of data, member checking, long-term and repeated observations in the research setting, peer examination, action research, and clarification of the researcher’s bias” (Creswell, 2003, p. 204).

Summary

This chapter described the extensive planning, implementation, and post-garden research phases. A variety of cross-sectional, qualitative, and available quantitative data was collected throughout several phases of the action research project. Findings are presented in chapter 4.

Chapter 4

Results

This chapter is presented in five sections: pre-garden data, post-garden data, the impact of the prison garden, descriptive statistics, and a summary. Pre- and post-garden data are reported from three sets of groups: inmate participants (of the program) (*N* = 9), the inmate control group (*N* = 9), and staff (*N* = 8) for a total of 26 research participants.

In the first set of pre-garden data, themes emerged in major categories of physical environment, social climate, and expectations of the garden's impact on people within those environments. In the post-garden section, repeated themes are presented relating to physical environment and social climate (as based on previous expectations), along with themes that emerged independent of the pre-garden themes (noted as "new themes"). The last table in the qualitative section combines themes relevant to the garden's impact on inmates and staff, organized by new categories that answer the question: What is the impact of a garden project on the physical environment and social climate of a prison yard? The qualitative data are followed by two sets of descriptive statistics.

Data are presented with narrative, followed by a table for each set of data. Tables are sorted by theme, then number of participant answers per theme, as well as the corresponding percentage. For instance, one person's comments about the same theme are counted by that person, not by the number of comments the person made.

Pre-Garden Data

In order to set a benchmark for data comparison that would determine shifts in inmate and staff opinions about the physical environment and social climate of the prison yard before and after the garden was planted, information was gathered prior to the garden being planted in December, 2003. These data were collected from all research participants over a six-week period.

Physical Environment of the Prison Yard

The physical environment of the prison yard included input from inmates and staff on the yard's appearance and its impact on them, from the standpoint of their thoughts, feelings, and behaviors.

Inmate participants. Seventy-eight percent of the inmate participants thought the prison yard was unattractive (see Table 4). Two inmates described it as "not very attractive, dull, nothing to look at," "it's kind of ugly," and "disgusting." Inmates also mentioned that the poor design of the prison yard causes crowding. For example, participants claimed that the design was "too compact for the amount of people here" and "the way it's designed now, there's not enough room for 1,000 people." Crowding also was related to feelings of discomfort. One inmate specifically noted that "the crowding [created by the bad design] causes discomfort."

Several inmates also mentioned that they looked at the scenery outside the prison because it was peaceful. One inmate admired "how beautiful the greenery is [outside the prison] and the clouds, sunsets . . . such beautiful colors in the sky—its freedom, peaceful. It's something I want, and I like to watch the

ferry go by." Another noted the behavior of other inmates who "like to stand over in another area where they can just see nothing but the hills."

Table 4

Inmate Participant Pre-Garden Themes Revealed in Interviews: Physical Environment

Theme	*N*	%
Prison yard is unattractive	7	78%
Poor design of the prison yard causes crowding	5	56%
A crowded prison yard is uncomfortable	3	33%
The unattractive prison yard creates negative feelings	3	33%
Inmates spend time looking at the scenery outside the prison gates because it is peaceful	3	33%

N = 9

Control group. Seventy-eight percent of the inmate control group reported that the yard was unattractive to them (see Table 5). They presented similar responses to the inmate participants, such as "dreary, "dull," "barren—in the summer it's like a wasteland, like a desert, a dustbowl when the wind comes up. " They also reported that the poor design of the prison yard causes crowding and discomfort. For instance, one inmate felt that "the yard is fear in the context of overcrowding." One inmate preferred to jog "in the evening because there are too many people out in the yard [during the day]." However, there was no mention of the appearance of the prison yard actually creating negative feelings, as it did for 33% of the inmate participants.

Another inmate commented that the views outside the prison provide him with "a sense of peace; I don't know if it's the mountains in particular but—a touch of reality—something."

Staff. Eighty-eight percent of the staff discussed the unattractiveness of the prison yard (see Table 6). Comments included "cement city," "kinda dull and

Table 5

Control Group Pre-Garden Themes Revealed in Interviews: Physical Environment

Theme	*N*	%
Prison yard is unattractive	7	78%
Poor design of the prison yard causes crowding	7	78%
A crowded prison yard is uncomfortable	3	33%
Scenery outside the prison is peaceful	1	11%

N = 9

dreary—maybe that's because it's a prison," and "it's crappy but it's a prison yard so I don't know what you could really expect." While 63% of the staff commented that design of the prison yard did not meet security needs, 37% of them thought it did. Blind spots were mentioned as key design flaws. Staff noted that the yard needed "clearer lines of sight, places where no one can hide," and that "the yard itself, the design of the unit, the way the buildings are configured, leaves a little something to be desired from a security standpoint because there are still blind spots."

Table 6

Staff Pre-Garden Themes Revealed in Interviews: Physical Environment

Theme	*N*	%
Prison yard is unattractive	7	88%
Physical yard design does not meet security needs	5	63%
The yard is too small and crowded	4	50%
Physical yard design meets security needs	3	37%
Existing landscaping features within the unit entrance are pleasing	2	25%
Dislike the physical design of the prison yard	1	13%

N = 8

In addition, two staff also mentioned that the existing landscaping features at the unit's entrance were pleasing, which the inmates did not mention in their

interviews. Staff members enter through this area on their way into work; inmates are not allowed in the area but can view it through the chain-link fence.

Social Climate of the Prison Yard

Inmates and staff also were interviewed about what happens on the prison yard from a social standpoint. Data were collected about the behaviors present on the prison yard that affected the research participants' thoughts, feelings, and behaviors, as well their perceptions of their behaviors on others.

Inmate participants. The majority of themes mentioned by inmate participants related to gangs and territorial segregation grouping by race in the prison yard (see Table 7). These themes had to do with the uncertainty created by grouping on the prison yard and the territorial segregation of the yard by race. One inmate noted, "complications normally [are] when other inmates overstep boundaries [for example, walk into another area where there's a different race grouping]" and that you can "feel the tension when there's something going on." Forty-four percent of the inmates noted that they would like to change the politics so everyone gets along. For instance, one inmate suggested that he "would like to see all races get along and talk to each other."

A third of the inmate participants noted their sense of alertness increased when they perceived there to be grouping, which indicated a behavior change. For instance, one inmate stated: "my back's to the wall . . . the wall is in back of me, homeboys all around. Oh, yeah, eyes are alert, everything's alert, senses are up. " More than half of the inmates interviewed, however, noted that when they were relaxed, they engaged in a variety of non-threatening behaviors, such as "joking," "kidding around," and "horseplay."

Table 7

Inmate Participant Pre-Garden Themes Revealed in Interviews: Social Climate

Theme	*N*	%
Grouping, Gangs, and Segregation		
Gang activity and associated grouping causes stress, uncertainty, or fear on the yard	4	44%
Inmates would like to change the politics so everyone gets along.	4	44%
Inmates more aware when there is something going on	3	33%
Grouping is inconsequential, especially for those not involved with politics	3	33%
Inmates segregate on the yard	3	33%
Inmates dislike the segregation	1	11%
Inmate Behavior (Not Related to Gangs)		
When inmates are relaxed, they engage in a variety of non-threatening behaviors	5	56%
Stress is caused by uncertainty of other inmates' behavior or intention (not gang-related)	2	22%
Relationships Between Inmates and Custody		
Custody partially responsible for negative atmosphere	4	44%
Respect is an important component of staff and inmate attitudes about each other	3	33%
Function of the Prison Yard		
One of the yard's functions is that it offers tension relief from crowding and stress of dorm living (inside dorms)	3	33%
Inmates socialize on the yard	2	22%
Safety is insufficient	1	11%
Safety is sufficient	1	11%

N = 9

In relation to inmates' relationships with custody, 44% of the inmates noted that custody was partially responsible for the negative atmosphere. One inmate reported that he "would like to see custody work more closely with inmates instead of having a . . . [derogative] attitude." Another inmate noted that "cops [are] partially responsible for the segregation [on the yard]." Thirty-three percent of the inmates stated that respect is an important component of staff and inmate attitudes about each other. For instance, a couple of inmates reported

that " . . . if you give respect, you get respect" and "they [custody] try to get along with us."

In terms of the yard's function, 33% of the inmates mentioned that it offered tension relief from the crowding and stress of dorm living. Inmates escape the dorm crowding by exercising and socializing on the yard. One inmate noted that "when there are lockdowns, tempers begin to fly" and that there is "more stress when [there are] lockdowns—created by lack of space [in the dorms]." The yard offers a place where they can go out and "exercise to work out the tension."

Inmate control group. More than half of the control group noted the segregation and grouping on the yard (see Table 8). One inmate noted that "it doesn't matter how nice [the yard] is, people won't go where they're not supposed to [for example, grassy area is where only the Blacks hang out]." However, unlike the inmate participants, 44% of the control group mentioned that the grouping is inconsequential, especially for those not involved in the politics. One inmate noted he is "relaxed because I don't get involved with politics." Only 22% noted that the gang activity and associated grouping causes stress, uncertainty, and fear on the prison yard, as compared to 44% of the inmate participants.

The control group also was more concerned than the inmate participants about stress being caused by uncertainty of others' non-related gang behavior on the yard than the inmate participants. Forty-five percent of them noted that there was stress when "the alarms go off. You don't know what's happening, and [there is the] possibility that someone disrespected someone else and someone got into

it." The same inmate noted that "Blacks are loud" and that "there's a lot of sex play on the yard [flirting, touching]."

Table 8

Inmate Control Group Pre-Garden Themes Revealed in Interviews: Social Climate

Theme	*N*	%
Grouping, Gangs, and Segregation		
Inmates segregate on the yard by race	5	56%
Grouping is inconsequential, especially for those not involved with politics	4	44%
Gang activity and associated grouping causes stress, uncertainty, and fear on the yard	2	22%
Inmates would like to change the politics so everyone gets along.	2	22%
California Department of Corrections segregates the inmates	1	11%
Inmates dislike the segregation	1	11%
Inmate Behavior (Not Related to Gangs)		
Stress is caused by uncertainty of other inmates' behavior or intention (not gang-related)	4	44%
When inmates are relaxed, they engage in a variety of non-threatening behaviors	2	22%
Function of the Prison Yard		
Safety is sufficient	5	56%
One of the yard's functions is that it offers tension relief from crowding and stress of dorm living (inside dorms)	3	33%
Inmates socialize on the yard	3	33%
Relationships Between Inmates and Custody		
Respect is an important component of staff and inmate attitudes about each other	3	33%
Custody partially responsible for negative atmosphere	1	11%
Safety is insufficient	1	11%

N = 9

The control group felt more comfortable about the level of safety on the prison yard than did the participant inmates. One inmate felt that "from a security standpoint, I'm pretty comfortable" and another reported that "I feel pretty safe here." Similar to the inmate participants, 33% of the control group also mentioned that respect is an important component of inmates and staff attitudes about each

other. It was noted that “guards are fair—[if you] give respect, [you] get it back.” Only 11% noted that staff was partially responsible for the negative atmosphere on the yard.

Staff. Five of the themes mentioned about the prison yard’s social climate also were focused on gangs, grouping, and segregation (see Table 9). At least 50% of the staff mentioned that inmates self-segregate, that the presence of gangs and groupings caused stress on the yard, and that they dislike the segregation. “[The yard] is sanctioned off by territory” and “they do that to themselves” are descriptions of the staff’s perceptions of the inmates’ behavior on the yard. Fifty percent of the staff also noted that “grouping causes stress.” Unlike the inmates, however, a couple of staff who regularly work on the yard mentioned that gangs conducted their own mediation before staff had to intervene. For instance, one officer said that “a lot of things get worked out on the yard before there’s fighting going on—that’s a good way for them to get out there and handle that kind of stuff.” A higher percentage of staff than inmates thought that the CDC condoned the segregation: “[the segregation] originated from inmates, but the institution lets it go.”

Like the inmates, half of the staff also mentioned that respect is an important component of inmate and staff attitudes about each other. One officer noted that he is “comfortable as an officer, that I’ve built those relationships with the inmates. They treat me with respect because I treat them with respect.” Because inmates know him, they “know not to get away with certain things.”

Half of staff interviewed also thought they needed more officers on the yard to ensure the inmates’ safety. For instance, it was noted that “we average

somewhere between 900-950 [inmates], and we only have about 12 officers down here on the ground to watch inmates and keep control."

Table 9

Staff Pre-Garden Themes Revealed in Interviews: Social Environment

Theme	*N*	%
Grouping, Gangs, and Segregation		
Inmate are self-segregated into gangs	4	50%
The presence of gangs causes stress on the yard	4	50%
Staff dislikes the segregation	4	50%
Inmates mediate conflicts on the yard before staff has to	2	25%
The California Department of Corrections condones the gang's behavior	2	25%
Relationships Between Inmates and Custody		
Respect is an important component of staff and inmate attitudes about each other	4	50%
Need more officers on the yard to ensure safety of inmates	4	50%
Inmate Behavior (Not Related to Gangs)		
Staff stress is related to inmate behavior (not gang-related)	3	38%
Function of a Prison Yard		
Having a yard lowers stress because inmates can exercise—and reduces chances for assaults	4	50%
Yard serves as a place where inmates can take care of institutional business	2	25%

N = 8

For 50% of the staff, having a prison yard was noted as important because inmates can exercise on it to reduce their stress and lower the chance for assaults on the yard. One officer noted that he "liked the fact that there's a place that they can get out, exert their frustrations, rather than taking it out on an officer or an inmate." Another suggested that "I like it when they get out and expend all their energy; they don't expend it on staff, that's what I like about the yard, safety for staff."

Expectations of the Garden's Impact

Inmates and staff were asked questions about their expectations of the garden's impact in order to determine if these expectations were met after the garden was planted.

Inmate participants. Fifty-six percent of inmates felt that their participation in building the garden would be beneficial to them and create a sense of pride and accomplishment (see Table 10). Two inmates noted that they thought "working on it would give me a sense of pride, working with your hands. Seeing they way things are growing and coming to life—some form for it" and "something about that, coming back a couple of weeks later, to see the changes in the leaves, garden. Sense of accomplishment." Thirty-three percent of the inmate participants also expected to feel positive emotions after having planted the garden, such as "enjoyment to sit there and see different colors or plants, and see the animals react to them, whatever they might be." Another third of the inmates thought the yard would be more attractive with a garden. One mentioned: "it would liven things up, just the beauty of it."

Twenty-two percent of the inmates thought it might be risky to plant the garden because others might disrespect it. One of those inmates noted that if the area was disrespected in any way, he "would be angry."

Control group. Although the inmate control group would not actually be working in the garden, 56% expected that inmate participants would benefit from the experience (see Table 11). One inmate thought that "to put hands in dirt, you build something you be proud of it, what it becomes." At least 50% of them also thought the garden would create positive emotions and that it would feel good to

watch the garden grow. One inmate hoped that it would “take my mind away from anything that’s bugging me, stressing me, would help me [converse] better with different inmates.”

Table 10

Inmate Participant Pre-Garden Themes Revealed in Interviews: Expectations of Garden’s Impact

Theme	*N*	%
Potential Benefits of the Garden		
Inmates participating in the program will benefit or gain a sense of pride and accomplishment	5	56%
Garden would create positive emotions	3	33%
Prison yard is more attractive because of the garden	3	33%
Expectations are based on experience with former pumpkin patch	2	22%
Any changes on the yard might impact the yard	1	11%
Garden would create curiosity	1	11%
People would be interested in the program	1	11%
Risks and Uncertainty		
Reaction of observers might be disrespectful	2	22%

N = 9

The control group also identified other potential benefits that the inmate participants did not: the garden would create curiosity among other inmates, onlookers might not have any response, the garden would benefit everyone, and it would bring people together.

Twenty-two percent thought that the visitors “will notice garden” and that it would “look good to them [visitors].” The visitor’s center was within the secure area adjacent to the garden.

Thirty-three percent of the control group thought that the reaction of observers might be disrespectful, that “dress[ing] it up it will never work because there were always be the ones who disrespect, the ones who will try to destroy it.”

Table 11

Control Group Pre-Garden Themes Revealed in Interviews: Expectations of Garden's Impact

Theme	*N*	%
Potential Benefits of the Garden		
Garden would create positive emotions	5	56%
Inmates who participate in building the garden will benefit or gain a sense of pride and accomplishment	5	56%
Garden would create curiosity	3	33%
Garden would be more attractive	3	33%
Visitors will notice the garden	2	22%
Reaction of observers might be neutral	2	22%
Expectations are based on experience with the former pumpkin patch	2	22%
Gardening would bring people together	1	11%
Reaction of observers might be good	1	11%
Garden would benefit everyone	1	11%
People would be interested in the program	1	11%
Risks and Uncertainty		
Reaction of observers might be disrespectful	3	33%
Unsure of outcome	2	22%
The garden will not impact the yard	1	11%

N = 9

Staff. Half of the staff thought that garden participation would be beneficial for the inmates (see Table 12). For instance, one staff member mentioned that "they'll get a sense of personal satisfaction and reward from it" and " . . . the fact they've signed up for it, they can see the fruits of efforts—that may persuade them not to commit crimes." More than a third of them thought that inmate participation—inmates being outside in the garden—would make their jobs easier, because "whatever they can get to make their stay better and easier, it's easier for us also." A couple of the staff mentioned that the garden "would give a calming effect, relaxes you more so you can deal with things in a less stressful way."

Table 12

Staff Pre-Garden Themes Revealed in Interviews:
Expectations of Garden's Impact

Theme	*N*	%
Potential Benefits of the Garden		
Inmates' participation in program and garden implementation will be beneficial	4	50%
Inmate participation in Garden Program will make staff's job easier	3	38%
Better physical environment would create more positive atmosphere	3	38%
The garden would be calming and relaxing	2	25%
Inmates would take care of the garden	2	25%
The garden might impact some observers	2	25%
Reaction of Observers (Versus Participants) Will be Neutral or Good		
Garden would be great as a showpiece	1	13%
Other inmates will want to get involved	1	13%
Risks and Uncertainty		
Unsure whether garden will create a difference for observers	4	50%
Garden is a cause for concern because it will create a security risk	4	50%
Inmate intention to participate in the program would be to grow dope	1	13%

N = 8

Half of the staff also had concerns about the risks that building a garden might have on yard security because ground "that is palatable for plants also is palatable for inmates to hide stuff in, such as weapons." For this particular staff person, however, it was not a "major concern because it's directly under a tower." In addition, 50% of staff mentioned that they were not sure the garden would have any impact on observers.

Post-Garden Data

Post-garden data collection began approximately one month after the garden was planted. During the interviews, previous likes and dislikes, reasons for stress or relaxation, opinions about the prison yard's social environment, as well as expectations were reviewed with the interview participants as a

benchmark to determine whether there had been any impact or change in previously noted themes. New or emergent themes also were noted.

Physical Environment

After the garden was planted, data were gathered to determine what changes might have occurred related to the physical environment of the prison yard. In addition, new themes emerged after the post-garden interviews and also were reported to illustrate the impact of the garden on the physical environment and social climate of the prison yard.

Inmate participants. After the garden was planted, 78% of the inmate participants thought that the prison yard was more attractive and that it made a difference in the prison yard's appearance (see Table 13). Comments were reported like "the garden made a big difference because prior to us improving the yard, it looked just like a pile of dirt with a lot of weeds," "brings some life to the prison yard," and "it stands out more so than it did prior to the garden going in, which is great, it makes a difference on the yard." No one mentioned that the area looked unattractive.

Table 13

Inmate Participant Post-Garden Themes Revealed in Interviews: Physical Environment

Theme	*N*	%
Prison yard is more is attractive and garden makes a difference	7	78%
Scenery outside the prison is peaceful	2	22%

N = 9

Prison yard design and resulting stress and overcrowding were not mentioned in the follow-up interviews.

Control group. The entire inmate control group noted that the prison yard is more attractive (see Table 14). Inmates commented that "anything looks better than what was there. I like plants, bushes, trees, it's just nice to look at something other than dirt and rock" and "the garden looks a lot nicer. Makes that area of the yard a lot nicer . . . .the way it's set up brings out variety in the yard."

Table 14

Control Group Post-Garden Themes Revealed in Interviews: Physical Environment

Theme	*N*	%
Prison yard is more is attractive and garden makes a difference because it is an improvement	9	100%
Scenery outside prison is peaceful	1	11%

N = 9

No one mentioned that the area was unattractive. Prison yard design and resulting stress and overcrowding were not mentioned in the follow-up interviews.

Staff. Seventy-five percent of the staff thought the prison yard was more attractive because of the garden (see Table 15). Staff commented that it "looks a lot better now. A lot neater" and that "anything in this cement city makes it look great. Some kind of life than cement . . . it's great." Thirty-eight percent thought it was noticeable and different. More than a third of the staff mentioned that the garden was noticeable and that it drew attention to that area of the yard. For instance, one staff member said "I think it's great because it's noticeable. Before you could walk by and not even notice [the area], but now your eyes are drawn toward it." However, one officer noted that the garden was not noticeable and that it was planted in a bad area. He stated: "I was expecting something on a

larger scale. Something that would make an impact. It's almost not noticeable. [With the] horseshoe pits right behind it and location is a bad spot."

Table 15

Staff Post-Garden Themes Revealed in Interviews: Physical Environment

Theme	*N*	%
Prison yard is more attractive	6	75%
Garden area is noticeable and different	3	38%
Garden is not noticeable, planted in a bad area	1	13%

N = 8

Themes relating to the yard meeting or not meeting security needs as well as thoughts and feelings around the general design and related security issues of the prison yard were not mentioned in the follow-up interviews.

Social Climate

Social climate data are presented below. Data are organized by inmate participants, control group, and staff.

Inmate participants. One hundred percent of the inmate participants reported that the garden had not impacted the overall function of a prison yard—especially in relation to the gangs, grouping, and exercise (although some reported walking through the garden as part of their daily exercise routine) (see Table 16). Comments included "no impact on social grouping [in other areas of the yard]," "they [gangs] will always be like that," and "I haven't noticed much change except what we did." In addition, 56% of the inmates reported that there were no changes to their likes or dislikes around the prison yard (except as they related to the garden area). One mentioned that his "likes and dislikes haven't changed except that I like that part of that yard." A third of the inmates also

reported that with the exception of the garden, they had no changes to thoughts, feelings, or behaviors about the yard itself.

Table 16

Participant Inmate Post-Garden Themes Revealed in Interviews: Social Climate

Theme	*N*	%
Garden has not impacted the overall function of the prison yard (including gangs, cultural differences, etc.)	9	100%
With the exception of the garden, inmates still have same likes and dislikes about the prison yard	5	56%
Creating the garden helps change negative attitudes about inmates (generally)	4	44%
With the exception of the garden, was not a change to thoughts, feelings, or behaviors about the prison yard (except as they relate to the garden)	3	33%
Garden area is desegregated and in a neutral territory	3	33%
Garden creates hope for community and desegregation	2	22%

N = 9

However, a third of the inmates had also noticed that the only desegregated area of the prison yard was the garden. It was considered “neutral” territory. One inmate commented that “I see different races there; it’s like a neutral ground. That’s the best way to take these segregated sections and make them non-segregated.” Another noted: “We have one garden, and that garden is utilized by everybody, and all mixes, all different races. They’re not segregated when they walk over there, they’re not worried about a Black first and then the White goes.”

In addition, planting the garden gave 44% of the inmates hope that it would help to change attitudes about them. One inmate believed that “change is defeating some of the attitudes that we previously got out here that things like that can’t happen and then seeing that now that it’s complete, more people are believers in change.” Another mentioned that “I was able to help open the eyes of

the officials inside the prison that you know you can do something while you are in prison, you don't just have to lay up [stay in one's bunk]."

Control group. Eighty-nine percent of the control group also noted that the garden had not impacted the overall function of a prison yard (see Table 17). One inmate noted that "the yard is the same. Hasn't changed. The garden is nice, everybody likes it, but . . . it's not going to change activity." Another thought that "things were pretty much the same." More of the control group than the inmate participants reported that their likes and dislikes had not changed. One reported that " . . . as for my original dislikes, they're still dislikes."

Table 17

Control Group Post-Garden Themes Revealed in Interviews: Social Climate

Theme	*N*	%
Garden has not impacted the overall function of the prison yard (including gangs, cultural differences, etc.)	8	89%
With the exception of the garden, inmates still have same likes and dislikes	7	78%
Yard environment is quieter and less tense (less alarms)	2	22%
Garden area is desegregated and in a neutral territory	1	11%
With the exception of the garden, was not a change to thoughts, feelings, or behaviors (except as they relate to the garden)	1	11%

N = 9

Two of the inmate participants noted, however, that the yard seemed quieter and less tense, specifically referring to the decreased frequency of alarms on the yard. "[Alarms have been] a lot less frequent. One inmate noticed that there "used to be about three a week, now there's hardly any." Only one inmate in the control group mentioned that the garden was neutral territory, stating that "everybody been going over there, different race groups, they be going over there."

Staff. Half of the staff reported that the garden had not impacted the overall function of the prison yard (see Table 18). For instance, one noted that "the beautification hasn't changed overall function of the yard." Fifty percent of the staff also noted that there was no change to their overall levels of stress and relaxation that had been reported in the first round of interviews. No other themes from the first round of interviews were repeated. A quarter of them noticed that the garden had been designated as neutral territory, noting that "it's kind of like an off-limits area."

Table 18

Staff Post-Garden Themes Revealed in Interviews: Social Climate

Theme	*N*	%
Garden has not impacted the overall function of the prison yard	4	50%
No change to levels of stress and relaxation	4	50%
Garden area is desegregated and in a neutral territory	2	25%

N = 8

Garden's Impact Based on Previous Expectations and New Themes

Garden impact data are presented below. Data are organized by inmate participants, control group, and staff.

Inmate participants. Eighty-nine percent of the inmates felt their participation in planting the garden was beneficial and gave them a sense of pride, accomplishment, and hope (see Table 19). One inmate commented that he had a "feeling of accomplishment for one. And it's kind of good being part of the change in people." Another noted that "I like it since I know I was a part of it. Something that's an accomplishment."

Table 19

Inmate Participant Post-Garden Themes Revealed in Interviews: Related to Previous Expectations of Garden's Impact

Theme	*N*	%
Benefits of the Garden		
Inmates participating in the program benefit and have sense of pride, accomplishment, and hope	8	89%
Garden area is relaxing	6	67%
People are interested in the program	4	44%
Change is positive and is worth the risk	1	11%
Garden creates curiosity	1	11%
Risks and Uncertainty		
Inmates notice that reaction of observers is respectful or reaction of observers might be disrespectful	3	33%

N = 9

Prior to the garden being planted, a third of the inmates had reported that the garden would create positive emotions; however, after the garden was planted, 67% noted that the area was relaxing. One inmate noted that he "felt relaxed and happy when you're out there—don't feel the danger." Another inmate commented that it "took some of the stress away. To be around it [and] to walk the path." Forty percent of the inmates also noted that others not involved in the program have asked about it. One inmate said "I think people are beating down into the doors that they can get into the class."

One negative expectation mentioned previously—that other inmates might disrespect the area—turned out not to be the case. An inmate mentioned that "there's no trampling through it, you know there's nothing thrown in it and it's kept maintained." Although one inmate "thought people would be stealing the plants and things like that, stealing the dirt . . . that hasn't happened."

In addition to themes that had been previously mentioned, new ones emerged during the second round of participant interviews (see Table 20).

Eighty-nine percent of the inmates reported a positive experience actually working in the garden. “Coming together as a beginning, keeping together, working together for success” was one inmates’ experience building the garden. More than 78% of the participants also noted other inmates spending time in or near the garden. For instance, one inmate noticed that “some of the guys that are racial that have come forward and looked at the garden have made good comments about what we have done” and “a lot of guys have been walking through the paths; [it’s] something to walk through.”

Table 20

Inmate Participant Post-Garden Themes Revealed in Interviews: Emergent Themes Not Previously Mentioned

New Themes	*N*	%
Inmate participants reported a positive experience actually working in the garden	8	89%
Inmates want to see more work done on other areas on the prison yard	8	89%
Inmates (in general) spend time in or near the garden (change to behavior)	7	78%
Visitors do notice the garden (visitors will notice the garden)	4	44%
Inmates not in the program notice the garden	3	33%
Garden is an escape and distraction for inmates	2	22%
Officials and staff notice the garden	2	22%
Garden creates hope for rehabilitation	2	22%
Garden creates hope for community versus segregation	2	22%
Inmates notice San Quentin’s staff cooperation	2	22%
Inmates respect the tenacity of the project manager	2	22%
Inmates now have a reason to go out on the yard (other than the usual)	1	11%

N = 9

Most (89%) of the inmates wanted to see more work done on other areas. One inmate explained that “[I am] interested in wanting to do more—and can’t wait for the time to get started.”

Inmate participants also had not previously mentioned that visitors might notice the garden; however, after the planting, 44% stated that it was attracting visitor's attention. One inmate suggested that "they [visitors] can appreciate it with family members—that feels good—at least someone gets to see it from the outside." Another inmate said "visitors are amazed because they don't think prisoners can do landscaping. Really exciting."

Control group. Although only one inmate from the control group previously mentioned that the garden might bring people together, after the garden was planted, 56% noted that inmates from different races were working together during the garden implementation (see Table 21). One inmate "thought it was pretty interesting, looking at everyone come together from different races, completing the project like that. Another suggested that "instead of fighting each other, people can learn to work with one another."

Table 21

Control Group Post-Garden Themes Revealed in Interviews: Related to Previous Expectations of Garden's Impact

Theme	*N*	%
Potential Benefits of the Garden		
Control group noticed team effort, inmates from different races were working together during garden implementation	5	56%
Visitors will notice the garden	2	22%
Inmates who participate in building the garden will benefit or gain a sense of pride and accomplishment	1	11%
Garden creates curiosity or garden would create curiosity	1	11%
Risks and Uncertainty		
Inmates are respectful of the area	4	44%

N = 9

Forty-four percent of the control group also mentioned that they did not see anyone "disrespecting" the area, where a third of them previously thought

that might occur. One inmate said that " . . . I don't see nobody disrespecting, walking all over it, they just walk on the path. So the whole thing, seems like they respect what y'all did."

In terms of previously unmentioned themes, 78% of the control group mentioned that they would like to see more work done in other areas of the prison yard for a variety of reasons (see Table 22). For instance, one inmate stated that doing more would "make me feel interested . . . I can just imagine if the whole yard was a garden. Wow!" Another inmate suggested that "if you made that area look nice, there's other areas in the yard that also could make a difference in the way the yard is." A third of the inmates specifically stated that they wanted to see more planting because it would make a difference. One inmate expressed that "a small difference is a lot. If there [were] more areas, more people would get involved in taking care of it, maybe have a bigger impact on certain behaviors of certain people."

Table 22

Control Group Post-Garden Themes Revealed in Interviews: Emergent Themes Not Previously Mentioned

New Themes	*N*	%
Inmates want to see more work done in other areas of the prison yard	7	78%
Inmate control group observed participants having a positive experience during garden implementation	4	44%
Inmates spend time in or near the garden	4	44%
Inmates notice San Quentin staff cooperating with the garden project	3	33%
Garden area is relaxing	2	22%
Garden is an escape and distraction for inmates	2	22%
Inmates want to see more work done on the prison yard because it will create larger impact	1	11%
Guard tower might deter disrespectful inmate activity	1	11%
Inmates respect the tenacity of the project manager	1	11%

N = 9

Forty-four percent of the control group also observed the participants having a positive experience during garden implementation. One inmate thought it “seemed like you guys had a little bit of fun. Always good to see something being constructed. Doing something positive.” A third of the control group also noticed the staff at San Quentin cooperating with the garden’s implementation. One inmate said you have got to “start somewhere, and I’m surprised you got that [staff support], sometimes getting things around here is hard.”

Forty-four percent of the control either spent time in or near the garden themselves, or noticed others doing so. One inmate said “now I make it a habit to go through the garden. Even though it’s like 15 steps. I walk through the path.” Another one noted that “people go through there and walk the path and enjoy the garden. Not everybody does, but maybe 30% of people on the yard do.”

Staff. Prior to the garden’s implementation, a third of the staff thought that inmate participation in constructing the garden would give them a sense of pride and accomplishment. However, after the garden’s implementation, 25% of the staff reported this (see Table 23). One officer reported that “they were kind of proud of what they were doing. Even heard some of them talking about it, out there working hard.” Another staff member who put himself in the inmates’ situation suggested that if “we [referring to inmates] can participate, we can do something like that and be treated like a person and not an inmate.”

A quarter of the staff also originally thought that the garden would be calming and relaxing. That same percentage did report that to be the case after the garden was planted. It was noted that “initially coming through, it’s comforting to see the new area, the garden area . . . it mellows you out a little bit.”

Compared to half the staff that originally reported that inmate participation would be beneficial, only 25% reported that as the case after garden planting.

Table 23

Staff Post-Garden Themes Revealed in Interviews: Related to Previous Expectations of Garden's Impact

Theme	*N*	%
Potential Benefits of the Garden		
Garden creates a positive atmosphere	2	25%
Garden is comforting and relaxing for staff	2	25%
Inmate participation is beneficial	2	25%
Inmate participation in the program will make the staff's job easier	1	13%
Risks and Uncertainty		
Inmates are respecting the area	4	50%
Inmates who are interested in the garden have agricultural backgrounds or interest in growing marijuana	1	13%

N = 8

Although 38% of the staff was concerned about the potential security risk prior to its implementation, they noted after the planting that inmates respect the area. One staff member observed that "I have not seen anybody do any damage or vandalism to it at all; it's there, just like the way you finished it."

Themes mentioned as prior expectations—such as inmates would take care of the garden, the garden might impact some observers or not, and other inmates might get more involved—were not mentioned after the garden was planted.

After planting the garden, half of the staff noted that it was too early to tell the impact of the garden on the yard overall (see Table 24). For instance, one person mentioned that "it's kind of too soon to tell until things start to bloom and the weather's nice enough for the guys to be out there all the time."

Table 24

Staff Post-Garden Themes Revealed in Interviews:
Emergent Themes Not Previously Mentioned

New Themes	*N*	%
Too early to tell impact	4	50%
Staff noticed inmates working together during garden implementation	3	38%
Garden provides staff with hope that inmates will learn a better way of life	3	38%
Staff wants to see inmates do more work	2	25%
Garden is safe because of its location near the guard tower	1	13%
Garden is appreciated from a distance	1	13%
Inmates are putting more plants in the dorms	1	13%
Garden implementation was fulfilling for staff involved	1	13%
Yard has had fewer “incidents” lately	1	13%
Inmates working on the garden was a good example of others	1	13%
A cluttered garden would create more of a security risk (-)	1	13%
Stress is less because fewer incidents	1	13%

N = 8

Thirty-eight percent of the staff also noticed inmates working together during garden implementation. One higher ranking official felt that it was a “wholesome idea about the way people should work together as opposed to the way a prison works.” Another staff member observed that “while you were out there, everybody looked the same, everybody was just a person, just the people out there working to achieve a goal.”

The same percentage hoped that the garden would provide inmates options for a better way of life. “I’m hopeful that they will appreciate the beauty in it and hope that it also will help them extend those types of feelings to other things in life, other things that are more positive.” This was the general idea expressed by three staff members.

The Impact of the Prison Garden

The impact of the garden on the physical environment and social climate of the prison yard was derived from inmate and staff perceptions that emerged during the research. Expectations about the garden's impact were gathered before and after the garden was planted, and themes were reviewed to determine shifts in perception.

Expectations About the Garden's Impact

During the post-garden followup, inmates and staff were asked if the garden met their expectations, based on data collected prior to the garden being planted. They were asked to categorize their answers as expectations exceeded, expectations completely met, expectations partially met, and expectations not met at all. Answers were categorized in this way.

As was noted, 89% of the inmate participants felt their expectations were completely met, and one inmate suggested his expectations were exceeded (see Table 25).

Table 25

Results of Expectations About Garden's Impact

Group	Expectations Exceeded	Expectations Completely Met	Expectations Partially Met	Expectations Not Met at All
Inmate participants (*N* = 9)	11%	89%	0	0
Inmate control group (*N* = 9)	22%	78%	0	0
Staff (*N* = 8)	0	75%	25%	0

Twenty-two percent of the control group noted that their expectations were exceeded, and another 78% noted that theirs were completely met. Finally, 75% of the staff mentioned their expectations were met and 25% partially met.

However, one staff member who had thought the garden would be a “showpiece” actually thought it was almost not noticeable because of its location.

Impact of the Prison Garden by Theme

After the garden was planted, more than 89% of inmate participants and the control group reported that there was no change to the overall function of the prison yard. However, the themes mentioned below, which are reorganized by the larger categories that emerged in the post-garden data, suggest that the garden did have an impact on the physical appearance of the yard, on inmate participants and observers, and on the social climate of the prison yard in or near the garden (see Table 26). These categories are discussed further as conclusions in chapter 5.

Descriptive Statistics

In addition to the qualitative data gathered during the pre- and post-garden interviews, two sets of quantitative data were gathered: numbers of disciplinaries and lockdowns from November 2003 to February 2004.

CDC 115—Rules Violation Reports

Disciplinaries are part of the CDCs’ Rules Violation Report—writes-ups on inmates who have violated any number of prison rules. These reports can include anything from disobeying direct orders to assaulting another inmate or an officer.

Per the total number of inmates on the yard (approximately 1,000), the report shows that for the months of November and December 2003 (pre-garden), there was an average of 152 violations, whereas in the months of January and February 2004 (post-garden), there was an average of 97 (see Table 27). The overall decrease in averages between the two sets of data was 36%.

Table 26

Themes Related to Garden's Impact: Inmate Participants, Control Group, and Staff

Impact of the Garden	P/*N*	C/*N*	S/*N*
Gardens Invite Attention, Use, and Refuge			
Appearance of the prison yard is better	7	9	6
Inmates spend time in or near the garden	7	4	0
Visitors notice the garden	4	2	0
The garden is noticeable	3	0	3
Garden is an escape or distraction for the inmates	2	2	0
Officials and staff notice the garden	2	0	0
Garden creates curiosity	0	1	0
Being In or Near a Garden Reduces Stress			
Garden is relaxing	6	2	2
Garden is "Neutral" Territory in a Segregated Environment			
The garden is "neutral" territory—all races use it.	3	1	2
Gardening Builds Community			
San Quentin staff cooperated with the project and garden planting (brings people together)	2	3	0
Garden creates hope for community versus segregation	2	0	0
Participants Benefit and Gain a Sense of Pride and Accomplishment			
Inmates who participated had a sense of pride, accomplishment	8	1	2
Inmates had a positive experience working in the garden during implementation	8	4	0
The Garden Creates Hope in the Possibility for Change			
Want to see more done around the prison yard	8	7	2
The reaction of observers is respectful	3	4	4
Inmates are interested in the program because of the garden	4	0	0
Garden helps change negative attitudes about inmates	4	0	0
Garden creates hope for rehabilitation, better way of life	2	0	2
Staff Concern About Change			
The reaction of inmates would be disrespectful	2	3	3
Too early to tell impact	0	0	4
Garden should not be too cluttered	0	0	1
Garden does not change overall function of the prison yard	9	8	4
Other than garden, dislikes and likes are the same	5	7	0
No changes to thoughts, feelings, behaviors (except in relation to the garden)	3	1	0

P: inmate participants; C: Control; S: Staff

Table 27

Number of Disciplinaries from the Rules Violation Reports: Four-Month Period Pre- and Post-Garden

Month	*N*	Mean *N*
Pre-Garden		
November 2003	164	152
December 2003	141	
Post-Garden		
January 2004	95	97
February 2004 (to date)	99	

Lockdowns

The number of lockdowns—or incidents that required inmates to stay inside their dorms until responsibility for the incident was determined—also were gathered covering the period of November to December 2003, and January to February 2004 (see Table 28).

Table 28

Number of Lockdowns During Pre- and Post-Garden Research

Month	November 2003	December 2003	January 2004	February 2004
Number of Lockdowns	2	1	1	2

In November, the first lockdown was white men only in Dorm 2, and the second lockdown was all of the white men in H-Unit. After the first day of the lockdown in December when all of Dorm 3 was locked down, the lockdown was then modified to include all African-American and American Indians in H-unit. The one lockdown in January was all races in Dorm 3. In February, the first lockdown included all Mexicans, and the second one was all African-Americans.

Summary

This chapter reported the results of the study, based on two sets of data gathered over a four-month period. The next chapter presents research conclusions and interpretations, as well as recommendations and implications, research limitations, and directions for future areas of research.

Chapter 5

Discussion

The intent of this study was to determine the impact of a garden project on the physical environment and social climate of a prison yard, from both staff and inmate perspectives. This chapter reviews the study conclusions and interpretations, as well as recommendations, implications, limitations, and suggestions for future research. Finally, a summary of learning is presented.

Conclusions and Interpretations

After studying the impact of a prison garden on the physical environment and social climate of a prison yard, conclusions have not only supported findings in the literature review, but also presented new outcomes and potential topics for future study. The evidence suggested that (a) gardens invite attention, use, and refuge; (b) being in or near a garden reduces stress; (c) gardens are “neutral” territory in segregated environments; (d) gardening builds community; (e) inmate participants gain a sense of enjoyment, pride, and accomplishment in building and maintaining a garden; and (f) the garden creates hope and the possibility for change. In addition, the findings presented in chapter 4 also indicate that the majority of inmate and staff expectations about the garden’s impact on the physical environment and social climate of the prison yard were met or exceeded.

Gardens Invite Attention, Use, and Refuge

The research confirmed data gathered during the literature review about prison yards being generally unattractive and poorly designed, which in turn creates overcrowding, stress, discomfort, and lack of privacy for inmates (Wright

& Goodstein, 1989; Moore & Arch, 1981; Wener et al., 1985; Ostfeld et al., 1987). At San Quentin, planting a garden in one section of a barren prison yard enhanced that area's appearance. Because of this, inmate participants and the control group noticed the area, spent time in or near it, found it a place to "escape," and had a new purpose to go out into the prison yard. Some walked through the path in the garden and made it part of their daily exercise regimen.

Although there are no benches in the garden, activities near or around it have included inmates playing guitars, men sunbathing, and people walking through it looking at the plants and asking questions. Staff walking through the H-Unit entrance had noted how nice it was to look at the garden on their way to work, although they did not spend much time in it (many of those interviewed work inside the dorms or administrative buildings).

Prior to the garden being planted, few people spent time in that particular area. It was a bit set back from the main yard and during the winter and was previously a barren plot of land with weeds.

Being in or Near a Garden Reduces Stress

Although the majority of inmates and staff did not feel their levels of stress or relaxation had changed in relation to the overall social climate in the prison yard, those who spend time in or near the garden did report feeling more relaxed in that particular area. One inmate stated: "[It's] very relaxing to get dressed to go out there and look at my little family [the garden]." Because of the crowded environment and interracial tensions inherent on a yard, the hope was that less stress would reduce the chance for disruptive "incidents." Staff noted that their jobs would be made easier if people worked on the garden because it would

keep inmates busy and distract them from the rest of the yard, thereby reducing their stress levels. One of the search and escort officers for the yard mentioned that “I wish we could have this going on all the time, make a greenhouse in the back, it does make the officers’ job easier . . . .”

Another search and escort officer whose job it was to monitor the yard’s gang activity noted that the number of incidents seemed to have dropped on the yard since the garden was built. He said

> we haven’t had any incidents in a while . . . and that’s pretty surprising, too, because I’ve been off the yard. And usually I’m the one keeping everyone calm, and I’m not out there, and everything’s still okay. I don’t know if I can put the correlation [with the garden]. Hey, it could . . . ”

Other inmates mentioned that things have seemed to be calmer and that fewer alarms had been going off.

Gardens are “Neutral” Territory in Segregated Environments

Areas on the prison yard were segregated by race. Within these race groupings can be “prison gangs.” Within a prison yard, the gang leaders and their “shotcallers” often direct inmates’ behavior. Other inmates, working under the shotcallers, often mediated conflict. Although inmates in the Garden Program expressed independence and non-involvement with these gangs (no gang affiliation has been a Success Program entrance criteria), the shotcallers closely watched any changes on a prison yard.

An unexpected outcome of the garden’s presence was that it remains the only area of the prison yard where all races intermingle freely without labeling the area as “their own.” This has huge implications for the possibility of gardens creating an example of successful desegregation in other prison yards. An

inmate particularly moved by the experience of gardening stated that all people had to do was “let nature handle our problem [of segregation].”

Gardening Builds Community

The literature supported the concept of “community gardening” through the lens of low-income housing communities and schools (Lewis, 1992; Lewis, 1996; Brogan & James, 1980). However, no research specifically had been conducted with prison inmates or staff to determine the impact of a garden on prison communities. This research indicated that at San Quentin, the inmate control group and staff both noticed participants from all races worked together during the gardening process. For one inmate participant, the experience illustrated to him “that we can all work together instead of separated and divided.”

In addition, staff and onlookers were somewhat surprised that inmates could work in teams without incident and in full view of other inmates on the yard. Prior to planting the garden, one of the concerns was that the yard’s “shotcallers” would pressure inmates to remain segregated. However, no inmates have mentioned this peer pressure as they continued to work in mixed-race gardening teams. One inmate stated “instead of fighting each other, people can learn to work with one another.”

Although the literature reviewed had not mentioned staff participating in a Garden Program, during the implementation of the garden at San Quentin, staff did collaborate with the project manager and the inmates prior to the garden’s implementation and during the actual gardening phase. They have supported the garden’s after-care as well by watching the inmates as they work in the garden. Inmates have noted this shift in staff behavior. For instance, one inmate was

surprised at “how fast we completed and how much positive cooperation and feedback there was from the fellow custody officers. I mean it put me in touch with custody officers where otherwise I wouldn’t have talked to them.”

Inmate Participants Gain a Sense of Enjoyment, Pride, and Accomplishment in Building and Maintaining a Garden

During the gardening process, the inmate participants gained a sense of pride and accomplishment in helping create and maintain the garden. The fact that mixed races actually provided their input in planning and building the garden, while participating as a team, provided them with a real sense of accomplishment. One inmate stated “I was one of the few that had opportunity to work there, and I was able to open up my mind and give suggestions and ideas and that made me feel alive.” Even the control group and staff noticed the dedication of the inmates, despite inclement weather during garden implementation. One of the non-participants observed that “it seemed like you guys had a little bit of fun. Always good to see something being constructed. Doing something positive. Something that would make a difference.”

Not only did the inmate participants work hard to achieve a goal, but the interest in the garden from visitors, other inmates, and staff has extended their feelings of pride and accomplishment. Although inmates expected people to be curious about the garden, they did not expect so many to ask so many questions, walk through the path, or want to join the program. One inmate noted: “What a way to pass your time in prison, by doing something in prison where everybody notices it!” That the garden invited attention created a sense of pride and hope

for their future as well as the continued potential for change within the prison walls.

Garden Creates Hope and the Possibility for Change

Many of these conclusions fall into a broader category—the successful implementation of a prison garden creates hope and the possibility for change for individuals, groups, and the social climate of a prison system. By making an effort to change themselves, inmates set an example for others. They created the possibility for rehabilitation, changed attitudes, desegregation, and future work. This section closes with a discussion of the conclusion that prison staff are generally more concerned about the impact of change than are the inmates themselves.

Rehabilitation. The inmate participants' feelings of accomplishment and pride have led some of them to believe in their capabilities and the fact that they can make a difference within a larger system. The idea of rehabilitation has become more of a reality for them through program experience. One inmate explained: "I was crawling; now I'm walking, taking steps now. But this program has truly given me a different outlook." Staff also have expressed that the garden would make a difference in inmates' lives. After observing the garden implementation, one staff member offered " . . . seeing something like 20 inmates and some free staff [volunteers] relating to each other plants that seed in [the inmates'] mind of saying, 'well, maybe I can do that.'"

Changing attitudes about inmates. Inmates also suggested that if they participate in positive activities that change the prison environment, perceptions and attitudes about them as people also will change. "Change is defeating some

of the attitudes that we previously got out here that things like that can't happen and then seeing that now that it's complete, more people are believers in change," one inmate explained after having been in the program for more than a year and then finally planting the garden. An ongoing observation as well as research finding was how much inmates yearn for respect and to be seen for who they really are instead of the bad behavior that got them into prison.

Desegregation. Where no one could have previously imagined any desegregation on a prison yard, the inmates worked together during the garden's creation—and since then, the garden has been the only area of the prison yard considered "neutral." Inmates and staff who were initially concerned about others disrespecting the area have been surprised that it remains untouched and incident-free.

Future work. Feeling excited about their accomplishments, the positive impact the garden has had on others, and the lack of "incidents," inmates want to do more work on the yard—not only for the aesthetics, but because "it will make a difference." One inmate participant exclaimed that "we're all motivated to do the next project we have, and there is room for improvement." Another inmate from the control group suggested that "a small difference is a lot. If there [were] more areas, more people would get involved in taking care of it, maybe have a bigger impact on certain behaviors of certain people." A staff member also had hope for the future, "cause I really do think that if the yard got that major makeover, facelift, we'd see a lot of improvement in terms of attitudes and actions of the inmates."

Staff concern about change. Custody staff in H-Unit had a challenging job of maintaining the overall safety and order of almost a thousand men. Strict rules and regulations defined every inmate activity and associated behavior. The system functioned by routine and control, and changes to that routine had initially raised anxiety and created some resistance to the project. However, as time went on and relationships were built with many staff, they became supportive of the project.

The positions, experience, and roles of custody staff at San Quentin had much bearing on their cautious attitudes about the potential for change in this highly regimented system. One officer suggested that he was “probably more institutionalized than the inmates.” For some of the custody staff, their opinions about the inmates had been developed through extensive experience working in other areas of the prison such as death row and administrative segregation. Two other staff who had worked on death row and had moved up the system and, at the time of this project, held supervisory or management roles (for example, lieutenants and sergeants) felt that working in H-Unit was more relaxed than their previous prison experience.

Several staff who had been long-time supporters of the Success Program (and were generally supportive of rehabilitative programs in the unit) had more optimism about the program’s impact than did officers who had no knowledge of the project or the Success Program prior to the research. One higher ranking official noted the dichotomy between the role of a prison, attempts to improve its environment, and potential impact on inmates:

> people have this idea that prison is not supposed to be a pleasant environment. They're right, it's not supposed to be pleasant, it supposed to be a place where people don't want to come back to if they're here. So this is a dichotomy here, because you realize the happier they are, the more pleasant it is for them to adjust to their environment and do their time well and perhaps have a more positive outlook. But on the other hand, you've got this tradition of prisons, so there's not a lot of thought or input into making this an aesthetically pleasing place.

From the initiation of the garden project to the actual implementation and post-garden maintenance, staff had a variety of security concerns about the project, mostly having to do with the possibility of drugs and/or weapons being hidden in the garden (which was based on past experience with inmates doing just that). To date, this had not occurred. Staff had noticed that the area is respected, although one officer mentioned that this might be due to the garden's location under the guard tower.

Eighty-nine percent of the staff did not like the prison yard's appearance prior to the garden being planted. Afterwards, almost 70% of them thought it was an improvement from its previous appearance, whereas 78% and 100% of inmate participants and the control group respectively felt the appearance was better. Fewer themes emerged from staff responses during the post-garden themes than from the inmates, and who generally discussed opinions, thoughts, and behaviors versus feelings. Since the program was not developed for them and they were not actively engaged in planting the garden, this level of input was expected.

In addition, fewer staff reported expectations were completely or partially met versus inmates whose expectations were fully met or exceeded. Overall, staff seemed to be less impacted by the garden than were the inmates. Not as

many staff walked through it or used it, and they had fewer responses overall to the post-garden interview questions. Fifty percent of the staff (versus no inmates) noted that it was too soon to tell the impact, but some were optimistic that as the flowers bloomed, it would make more of a difference.

Recommendations and Implications

Four primary recommendations and implications emerged from this study. These are described below.

Use the Garden Project to Enhance Collaboration between Inmates and Staff at San Quentin

One way to increase trust and establish more respect between staff and inmates would be to more actively engage staff in the Garden Program. Although they did participate in the decision-making process during the program's planning phases in the success dorm program committee meetings, they were not invited to actively participate in classes or the garden implementation other than helping out with onsite coordination. Because of the institutionalized roles of the inmates and command-and-control nature of the institution and some lack of trust between inmates and staff, inmates might have a more difficult time accepting custody staff as cohorts and vice versa.

Many staff have gardening and landscaping backgrounds, which could be leveraged to co-facilitate classes and maintain the garden. In order to do this, however, they would have to be temporarily willing to relinquish their traditional role as prison guards and officials. If a program including staff were to be implemented, it could be a groundbreaking shift in the relations between inmates and staff and how rehabilitation programs are administered.

Continue to Maintain and Expand the Garden Program Efforts

Based on input from inmates and most staff, it was recommended to continue and expand the Garden Program. External political considerations might dictate the extent to which the yard could be redesigned; however, with an initial success already underway, it might be easier to promote further expansion since the processes, coordination, and appropriate channels necessary to do construction within the prison yard are already in place. Another challenge would be to find an outside organization, willing to partner with the Insight Prison Project, that could provide the organizational infrastructure and financial resources that would support the program's expansion.

Establish an Organization to Design and Build Prison Gardens Throughout the California Prison System and Possibly Nationwide

The data from additional research (see Suggestions for Additional Research below) could be used to build support and funding for the establishment of an organization that would specifically focus on using gardens as change interventions in other California prisons, and possibly state prisons nationwide. Since the former warden of San Quentin—who has spearheaded rehabilitation, prison culture change, and supported the Garden Program—was recently promoted to head the CDC, future political support from the CDC and lawmakers in Sacramento might be possible. These gardens could be developed as rehabilitation programs, would keep inmates busy, possibly provide a less stressful environment on the prison yard, and thereby potentially increase safety on prison yards across the state.

Due to lack of state funds for any kind of rehabilitative programs, having outside organizations provide the training, curricula, and hands-on garden development would be the only means to implement state-wide prison garden programs. In addition, as was discovered during this project, relationship-building and collaboration with prison officials should be a key strategy to gain support from within the system.

Collaboration with the public also could build bridges between the communities inside and outside the prison walls. If people in local communities were tapped to work with the inmates to implement the gardens as a form of rehabilitation and creating safer prisons, awareness also could be raised regarding the overall issues about the impact of the current penal system on taxpayers and society in general.

Have Parolees and Ex-Cons Collaborate or Run Community Gardening Programs in Urban Areas

An organization could be formed or an existing organization expanded to help parolees start gardening programs that strengthen the communities in which they live (building on the ideas of Cathrine Snead's San Francisco Garden Project). In this way, former inmates could practice their landscaping skills to design and build sustainable gardens while simultaneously changing perceptions and attitudes about them as "ex-cons." Partnerships could be developed with local urban gardening programs across the nation.

Research Limitations

Three primary limitations affected the research, including reduction of scale for the Garden Program, length of time between pre- and post-garden research, and research design limitations. These are described in detail below.

Reduction of Scale for the Garden Program

As mentioned previously, when the Garden Program was originally initiated, it was intended for about a one-acre area of the prison yard. With design input from the inmates, it then expanded to the whole prison yard, and then was finally reduced to a 1,200-square-foot area to accommodate external political-environmental factors. The majority of comments about wanting to expand the program suggest that both inmates and staff believe a larger scale redesign would have even greater impact on the social climate and physical environment of the yard. Originally, when plans for redesign of the full yard were presented to inmates and staff, they were approved—despite potential political and security ramifications. One can only imagine the impact if exercise areas were moved closer together, the whole area was beautified, and more inmates worked on it.

Original estimated materials costs for redesign of the whole prison yard were about $85,000-100,000. These funds would have to be raised from individuals and foundations or through special events. However, the full program redesign could not have proceeded without a serious fundraising infrastructure behind it and a full-time manager to oversee its coordination, implementation, and ongoing maintenance.

Length of Time Between Pre- and Post-Garden Research

Another limitation to the research was the one-month timeframe between the pre- and post-garden research. As mentioned by some of the staff, it would have been more appropriate—and possibly more impact would have been reported—if post-garden research had been postponed until later in the spring. As one staff member noted: “As far as anything else, unfortunately, it has not been long enough to notice anything or have any kind of impact. Again, once things start blooming, flowering, I do expect to see something.”

Had deadlines not dictated the timing for the second phase of research, the second set of interviews could have been conducted three to six months post-garden implementation. This would have allowed time for the plants to grow and bloom and for the weather to improve so inmates could spend more time on the yard.

Research Design Limitations

Surveys and statistical measurements of inmates’ thoughts, feelings, and behaviors were not used, due to the inmates’ wide range of literacy levels.

Another design limitation was that interviews had to be conducted in English due to the lack of funds to pay for a translator. Although other inmates offered to translate, this was not appropriate because of the anonymity required to maintain the integrity of the interview content. However, English-speaking Mexicans did participate in the study, so some level of diversity was honored.

The limitations to this research study included bias toward the inmate population and generally well-established relationships with both inmates and staff or custody officers. This might have impacted the lens through which the

research was conducted; however, it also could have been considered an advantage because of the unusual level of access to inmates and staff that was granted.

Suggestions for Future Research

Two suggestions for future research emerged, including additional research on an expanded Garden Program and conducting a longitudinal study. These are described in detail below.

Additional Research on an Expanded Garden Program

As many inmates have noted, a larger scale effort might make more of a difference on the prison yard. If the program can be expanded, further research should be conducted to build on the initial findings of this research study. It could include additional research measures to determine the prison yard's social climate, the impact on inmate participants and their impact on the community, and the overall appearance of the yard.

Conduct a Longitudinal Study

If it were possible to expand the Garden Program, it also would make sense to find appropriate funding and resources to conduct a longitudinal study that would determine the long-term impact of gardening on the prison yard as well as on inmates after they are paroled. Data gathered could include whether they take on landscaping as a career, their areas of gardening and landscaping expertise, and their rates of recidivism. The challenges of conducting a study would be to manage contact with inmates through parole officers, keeping track of inmates after they leave prison (often challenging, because parolees tend to

be extremely transient), and establishing a research design that would gather relevant post-prison data.

The benefit of doing a longitudinal study would be to establish the long-term benefits of gardening on inmates and whether this influences their productivity in society. These data could then be used to support the establishment of additional rehabilitation programs as well as the organizations mentioned in the Recommendations and Implications section.

Summary

The data presented in this project, in conjunction with existing literature, support the notion that preparing for and building gardens is not only beneficial to observers and participants, but can change the social climates within which they function. Gardens create community, desegregate races, and provide hope for future possibilities—for continued expansion of projects within the prison, for changed perceptions and attitudes about inmates, and that those living inside prison walls will become productive members of society when they leave.

From a change management or organization development perspective, what started out as a rehabilitation program at San Quentin became an intervention in an institution traditionally highly resistant to change. Understanding this, the project was designed to be a collaborative effort, where every stakeholder at the table had a voice. During the success dorm meetings that preceded the garden's implementation, all issues surrounding the garden were facilitated, information was provided, and relationships were carefully nurtured and developed. As plans progressed, they were communicated to the top levels of prison management. With a warden at the helm committed to

“culture change,” this project supported her overall vision for rehabilitation and community service at San Quentin, reaffirming the role of leadership in systems change.

The warden’s buy-in and support was key to the project’s acceptance throughout administration as well as the staff on H-Unit. Despite constantly changing external environmental and political circumstances, the design team, inmates, and other stakeholders remained flexible enough to adapt to these changes and come to consensus on the possibilities, while simultaneously moving forward with planning. When the grassroots efforts were aligned with the leadership’s vision, resistance was unfrozen, and the garden was built.

The data indicate positive and unintended consequences of planting a garden on a prison yard, especially with regard to the teamwork displayed by diverse inmates and some staff. The garden became the only desegregated area of the prison yard. The model of “garden as an intervention” started with an idea for changing people’s lives through rehabilitation to physically manifesting change—which grew into a reality that connected people in ways they did not think possible. With those changes, the system shifted.

The idea of “garden as an intervention” to create a more pleasant physical environment, build bridges, create community, and change behavior within social climates should not be limited to prison. Traditionally, gardens and nature have been used to heal people or places considered in some way dysfunctional such as mental patients or inner-city communities—where people are suffering either internally or externally. Since many organizations suffer from the same types of characteristics of more controlled institutions, the idea of using a garden to build

bridges, teams, morale, and community could be one of the tools in an organization development practitioners' set of skills to facilitate change. With the understanding that one does not necessarily need to be a gardener, but a catalyst of the process, organization development practitioners can provide a new, holistic way of helping to create healthier physical environments and social climates within any type of organization.

Bibliography

Bibliography

Ashley, B. (2003, December 30). Relearning life: Rehabilitation program teaches prisoners to get to the root of their problems. Marin Independent Journal, pp. D1-D3.

Axtman, C. (2002, December 2). A flood of parolees hits the streets: Crime rates are rising in the US as ranks of repeat offenders increase. [Electronic version]. Christian Science Monitor. Retrieved February 2, 2003, from www.csmonitor.com/2002/1202/p01s03-usju.html.

Bechtel, R. B., & Churchman, A. (Eds.). (2002). Handbook of environmental psychology. New York: Wiley & Sons.

Bennett, E., & Swasey, J. (1996). Stress reduction and the urban public garden. In P. Williams and J. Zajicek (Eds.), People-plant interactions in urban areas: A research and education symposium (pp. 63-67). College Station, TX: Texas A&M University.

Bonnes, M., & Bonaiuto, M. (2002). Environmental psychology: From spatial-physical environment to sustainable development. In R. B. Bechtel & A. Churchman (Eds.), Handbook of environmental psychology (pp. 28-54). New York: Wiley & Sons.

Brogan, D. R., & James, L. D. (1980). Physical environment correlates of psychosocial health among urban residents. American Journal of Community Psychology, 8(5), 507-522.

Bruce, H. (n.d.). What is horticultural therapy? Celestial Therapeutic and Ornamental Gardens, Inc. Retrieved January 26, 2003, from http://www. ctogardens. org/index.phtml?menu=side_button&menu2=0&data=&data2 =&sessionid=t1044248158m18278200&username=&password=&userhelp =on&cart.

Butterfield, F. (2001, May 20). Inmate rehabilitation returns as prison goal. [Electronic version]. New York Times Online. Retrieved February 2, 2003, from http://query. nytimes. com/search/article-printpage.html?res= 9403EFDA163DF933A15756C0A9679C8B63.

California Department of Corrections. (2002, March 14). Recidivism rates within one- and two-year follow-up periods for felons paroled to California supervision. Retrieved January 24, 2003, from www.cdc.state.ca.us/ OffenderInfoServices/Reports/Annual/RECID1/RECID1d1999.pdf.

California prison growth. (n.d.). Center on Juvenile & Criminal Justice Online. Retrieved January 24, 2002, from http://www.cjcj.org/cpp/ccf_growth.php.

Cammack, C., Waliczek, T., & Zajicek, J. (2002). Green brigade: The educational effects of community-based horticultural programs on the horticultural knowledge and environmental attitude of juvenile offenders. Horticultural Technology, 12(1), 77-81.

Creswell, J. (2003). Research design: Qualitative, quantitative, and mixed methods approaches (2nd ed.). Thousand Oaks, CA: Sage.

Flager, J. (1995). The role of horticulture in training correctional youth. Horticultural Technology, 5(2), 185-187.

Flager, J., & Poincelot, R. (Eds). (1998). People-plant relationships: Setting research priorities. Binghamton, NY: Food Products.

Haller, R. (1998). Vocational, social, and therapeutic programs in horticulture. In S. P. Simpson & M. Straus (Eds), Horticulture as therapy: Principles and practice (pp. 43-68). New York: Haworth-Food Products.

Houston, J., Gibbons, D., & Jones, J. (1988, October). Physical environment and jail social climate. Crime & Delinquency, 34(4), 449-466.

Ittelson, W. H., Proshansky, H. H., Rivlin, L. G., & Winkel, G. (1974). An introduction to environmental psychology. New York: Holt, Rinehart, & Winston.

Kaplan, R. (1973). Some psychological benefits of gardening. Environment and behavior, 5(2), 145-152.

Kaplan, R., & Kaplan, S. (1989). The experience of nature: A psychological perspective. Cambridge, England: Cambridge University Press.

Lewis, C. A. (1992). Effects of plants and gardening in creating interpersonal and community well-being. In D. Relf (Ed.), The role of horticulture in human well-being and social development: A national symposium (pp. 55-65). Portland, OR: Timber.

Lewis, C. A. (1994). The evolutionary importance of people-plant relationships. In J. Flager & R. Poincelot (Eds.), People-plant relationships: Setting research priorities (pp. 239-254). Binghamton, NY: Food Products.

Lewis, C. A. (1996). Green nature/human nature: The meaning of plants in our lives. Champaign-Urbana, IL: University of Illinois Press.

Mann, F. (2002, July 26). Gardening has great potential for healing. The Capital, p. C1.

Mattson, R. (1992). Prescribing health benefits through horticultural activities. In D. Relf (Ed.), The role of horticulture in human well-being and social development: A national symposium (pp. 161-168). Portland, OR: Timber.

Migura, M. M., Whittlesey, L. A., & Zajicek, J. (1996). Effects of the master gardener program on the self-development of female inmates of a federal prison camp. In P. Williams & J. Zajicek (Eds.) People-plant interactions in urban areas: A research and education symposium (pp. 72-76). College Station, TX: Texas A&M University.

Mitchell, C., & Solomon, L. (2002, August). From prison to the community. Corrections Today, 64, 135.

Moore, O., & Arch, D. (1981). A prison environment's effect on health care service demands. Journal of Environmental Systems, 11(1), 17-34.

Moos, R. H. (1968). The assessment of the social climates of correctional institutions. Journal of Research in Crime and Delinquency, 5(2), 173-188.

Moos, R. H. (1975). Evaluating correctional and community settings. New York: Wiley.

Orians, G. H. (1986). An ecological and evolutionary approach to landscape aesthetics. In E. C. Penning-Rowsell and D. Lowenthal (Eds.), Meanings and values in landscape (pp. 3-25). London: Allen & Unwin.

Ostfeld, A., Stanislav, V., Kaso, E. F., & D'Atri, D. (1987). Stress, crowding and blood pressure in prison. Englewood Cliffs, NJ: Lawrence Erlbaum Associates, Inc.

Parsons, R., Ulrich, R., & Tassinary, L. (1994). Experimental approaches to the study of people plant relationships. In J. Flager and R. Poincelot (Eds.), People-plant relationships: Setting research priorities (pp. 347-372). Binghamton, NY: Food Products.

Patel, I. B. (1992). Socio-economic impact of community gardening in an urban setting. In D. Relf (Ed.), The role of horticulture in human well-being and social development: A national symposium (pp.84-87). Portland, OR: Timber.

Paulus, P., Cox, V., McCain, G., & Chandler, J. (1975). Some effects of crowding in a prison environment. Journal of Applied Social Psychology, 5, 86-91.

Relf, D. (1994). People-plant relationships. In S. P. Simpson and M. Straus (Eds.). Horticulture as therapy: Principles and practice (pp. 21-42). New York: Haworth/Food Products.

Relf, D. (Ed.). (1992). The role of horticulture in human well-being and social development: A national symposium. Portland, OR: Timber.

Rice, J. S. (1993). Self-development and horticultural therapy in a jail setting. Unpublished doctoral dissertation, San Francisco School of Psychology.

Rice, J. S., & Remy, L. (1994). Evaluating horticultural therapy: The ecological context of urban jail inmates. Journal of Home and Consumer Horticulture, 1(2-3), 203-224.

San Francisco garden project. (n.d.). Retrieved July 10, 2003, from www.gardenproject.org/growpeople/staff/.

San Quentin State Prison. (n.d.). California Department of Corrections. Retrieved February 3, 2003, from www.cdc.state.ca.us/InstitutionsDiv/INSTDIV/ facilities/fac_prison_SQ. asp.

Sentencing Report. (2002, August). Recidivism of state prisoners: Implications for sentencing and corrections policy. Retrieved January 24, 2003, from www.sentencingproject.org/brief/pub1064.pdf.

Simpson, S. P., & Straus, M. (Eds). (1998). Horticulture as therapy: Principles and practice. New York: Haworth/Food Products.

Smith, D. E. (1982). Crowding and confinement. In R. Johnson and H. Toch (Eds.) The pains of imprisonment (pp. 45-62). Thousand Oaks, CA: Sage.

Stokols, D. (1995, October). The paradox of environmental psychology. American Psychologist, 50(10), 821-837.

Stokols, D. (1999). Theory development in environmental psychology: A prospective view. In S. Wapner, J. Demick, T. Yamamoto, and H. Minami (Eds.), Theoretical perspectives in environment-behavior research (pp. 269-276). New York: Kluwer Academic-Plenum.

Sundstrom, E. (1996). Environmental psychology, 1989-1994. Environmental Psychology, 47, 482-512.

Toch, H. (1984). Quo vadis? Canadian Journal of Criminology, 26(4), 511-516.

Toch, H. (2002). Living in prison: The ecology of survival (3rd ed.). Albany, NY: State University of New York-Albany School of Criminal Justice.

Ulrich, R. S. (1983). Aesthetic and affective response to natural environment. In I. Altman and J. F. Wohlwill (Eds.), Human behavior and environment (Vol. 6, pp. 85-125). New York: Plenum.

Ulrich, R. S. (1984). View through a window may influence recovery from surgery. Science, 224(4647), 420-421.

Ulrich, R. S. (1986). Human responses to vegetation and landscape. Landscape and Urban Planning, 13, 29-44.

Ulrich, R. S., & Parsons, R. (1992). Influences of passive experiences with plants on individual well-being and health. In D. Relf (Ed.), The role of horticulture in human well-being and social development: A national symposium (pp. 93-105). Portland, OR: Timber.

Ulrich, R. S., Simons, R., Losito, E., Miles, M., & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. Journal of Environmental Psychology, 11(3), 201-230.

Wapner, S., & Demick, J. (1999). Epilogue: Similarities and differences across theories of environment-behavior relations. In S. Wapner, J. Demick, T. Yamamoto, & H. Minami (Eds.), Theoretical perspectives in environment-behavior research: Underlying assumptions, research problems, and methodologies (pp. 289-306). New York: Kluwer Academic-Plenum.

Wener, R., & Kaminoff, R. D. (1983). Improving environmental information: Effects of signs on perceived crowding and behavior. Environment and Behavior, 15(1), 3-20.

Wener, R., & Olsen, R. (1980). Innovative correctional environments: A user assessment. Environment and Behavior, 12(4), 478-494.

Wener, R., Frazier, W., & Farbstein, J. (1985). Three generations of evaluation and design of correctional facilities. Environment and Behavior, 17(1), 71-95.

Werner, C., & Altman, I. (1999). Humans and nature: insights from a transactional view. In S. Wapner, J. Demick, T. Yamamoto, and H. Minami (Eds.), Theoretical perspectives in environment-behavior research: Underlying assumptions, research problems, and methodologies (pp. 21-37). New York: Kluwer Academic-Plenum.

Werner, C., Altman, I., & Brown, B. (1992). A transactional approach to interpersonal relations: Physical environment, social context and temporal qualities. Journal of Social and Personal Relationships, 9, 297-323.

Wright, K. N., & Boudouris, J. (1982). As assessment of the Moos Correctional Institutions Environmental Scale. Journal of Research in Crime and Delinquency, 23, 255-276.

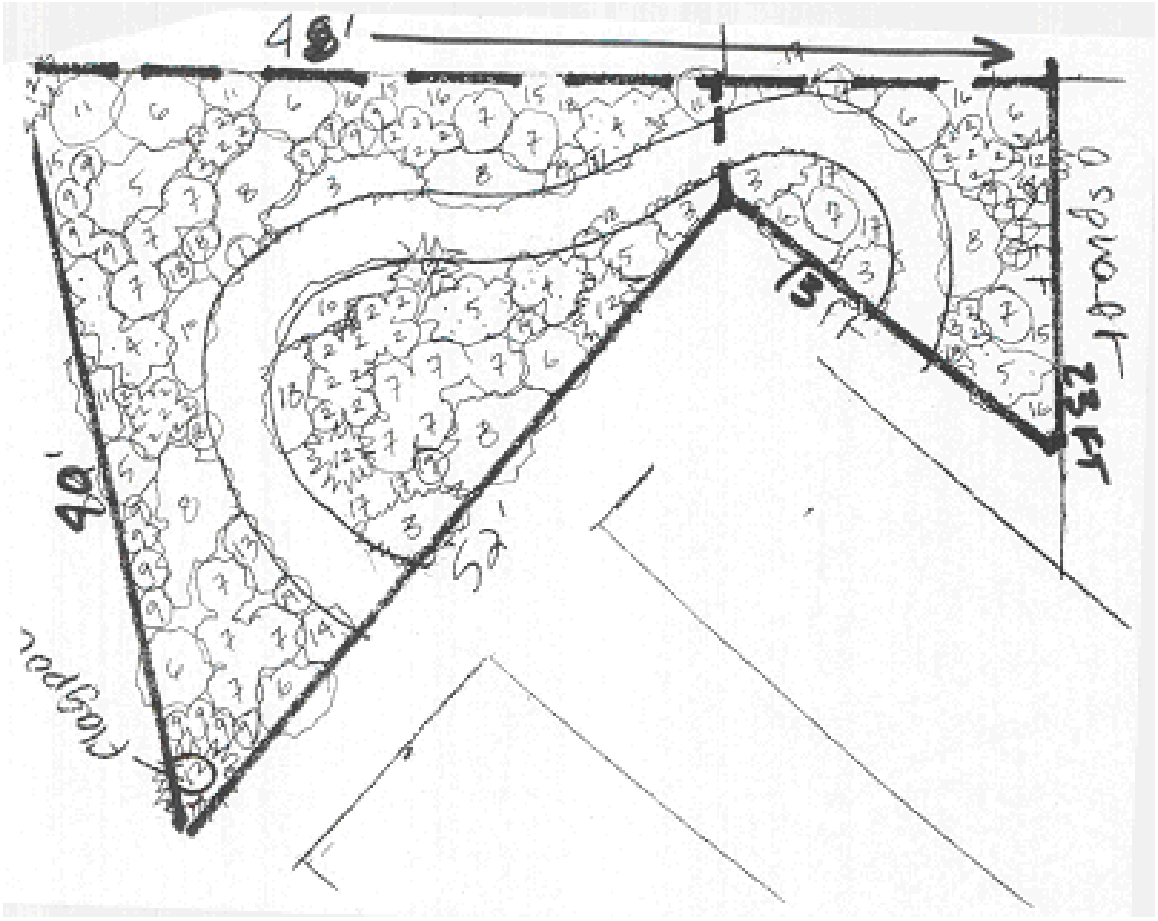
Wright, K. N., & Goodstein, L. (1989). Correctional environments. In L. Goodstein and D. MacKenzie (Eds.), The American prison: Issues in research and policy (pp. 253-270). New York: Plenum.

Zamble, E., & Porporino, F. (1988). Coping, behavior, and adaptation in prison inmates. New York: Springer-Verlag.

Zamorra, J. H. (2002, December 23). Parolees in revolving door: California has the highest rate of recidivism. San Francisco Chronicle, p. A1.

Appendix A

Garden Drawing


48'
40'
57'
13FT
23FT
Dogpool

Appendix B

Yard Program Study Group Selection Presentation

Presentation of the Yard Beautification Research Project to
Inmates at San Quentin State Prison

Background
Researcher's graduate thesis research project for M.S. in Organization Development from Pepperdine University, Graziadio School of Business

What is a Thesis? A thesis involved research project to be studied/written as part of my graduate degree requirement (more than a term paper, less than a dissertation). About 80 pages, not including appendices

Rules of Engagement

- Class norms: ask that what is mentioned within this group stays w/in group. Ask that each person keep individual conversations w/me confidential—as I will do w/you—for the integrity of the project
- If you agree to be in this project, all conversations/interviews remain confidential
- All data gathered confidential, under lock and key, off prison grounds
- All research subjects remain anonymous in thesis—no names
- If you want to participate in the project, you will sign a consent form
- There is no compensation for your participation in the project.
- English speakers (up to seven)
- As much diversity as possible
- At least two alternates

Thesis topic/research question
Will the change in physical environment at San Quentin prison—landscaping and gardening as part of the Yard Beautification Project—have either behavioral and attitudinal impact on inmates and staff after its implementation?

Research objectives

- Determine how inmates and staff (including custody officers) feel about the prison environment before the garden is planted.
- Work with the inmates and staff to implement the Yard Project as part of the success dorm programming. Interviews during the process
- Determine at various times after implementation (during maintenance, classes and further training) how inmates and staff feel and behave in the new environment.

Qualitative/quantitative research—explain the difference. This will be mixed methods, with emphasis on qualitative.

Selection criteria for volunteers
Two groups of inmates
1. Those participating in the Garden Program
2. Those not in Success Program (or Garden Program) at all

How I select pool of potential applicants:

- Need volunteers from this class who are not paroling until Spring 2004
- Need applicants from 3 groups with similar characteristics
- Way to create pool of potential applicants is to compare characteristics (for example, ethnicity)
- Review C-Files for similarities with other groups
- Select pool of applicants based on characteristics of this class
- No judgment made—what is past is past—we are moving forward. I am invested in your future and the future of this project
- Meet with each of you individually to gauge your comfort level with this process
- Your decision to be part of this project remains confidential

Appendix C

Inmate Consent and Release Form

Consent To Participate in a Research Study (Inmates)

TITLE OF THE STUDY: The Impact of a Garden Program on the Physical Environment and Social Climate of a Prison Yard at San Quentin State Prison.

INVESTIGATOR'S NAME AND AFFILIATION: Beth Waitkus, Principal Researcher, current graduate student at the Graziadio School of Business, Pepperdine University, Culver City, CA. Research is in partial fulfillment of the requirements for the degree of Masters in Science in Organization Development.

PURPOSE: To study the impact of the Garden Program on inmates and staff at San Quentin State Prison.

PROCEDURES: If you decide to volunteer, you will participate in several interviews with the Principal Researcher. The interviews will last approximately between 45 minutes to one hour. You will be asked questions about your role in and perceptions of the Garden Program before, during and after its implementation. You will not be asked to provide any information about any pending current legal matters. All interviews will be tape recorded and typed up for review. All tape recordings will be stored in a secure place during the research and then destroyed. No names will be used to identify anyone who takes part in the interviews. The information from the interviews will be presented in a research study focusing on the impact of this program on various groups of inmates and staff at San Quentin. It may assist in an understanding of how gardening and landscaping impacts the lives of those living and working within the prison walls.

ALTERNATIVES: Your involvement in this research is completely optional. You can decide not to be a volunteer in the study.

RISKS: There are no known risks to you for being in this study. Some inmates find it hard to talk about their experiences at prison. You may experience sadness during the interview. If you do, you may do one of the following: 1) sit quietly and choose not to answer, or 2) decide to end the interview at any time. In the event that you are overly distressed about the topics being discusses, the Researcher will assess the situation and, in the event it is necessary, will ask whether you would like to be referred to the appropriate counseling or mental health services offered for inmates of the institution. Referral for these services will be made as per institutional guidelines.

BENEFITS: You may not get a direct benefit from being in this study. Many other interviewees have enjoyed sharing their experiences and perceptions with an impartial listener. Your being in the study may help the researched identify and promote the best practices of gardening and landscaping a prison environment.

Participant's Initials _____

CONFIDENTIALITY: The results of information the researcher learns from the interview may be published in the form of articles, a book, or a research report; however, you will not be identified by name. Only the researcher will have access to the information learned from the interview and no identifying information will be linked to the information learned. All tape recordings and transcripts for the study will be stored in a locking file cabinet in the office of the Principal Researcher. Absolute confidentiality cannot be guaranteed, since research documents are not protected from subpoena.

COSTS/COMPENSATION: There is no cost to you beyond the time and effort required to complete the interview. There is no payment for your involvement in the study.

RIGHT TO REFUSE OR WITHDRAW: You may refuse to be in this study. If you decide not to take part, you may change your mind about being in the study and quit at any time after the study has started.

QUESTIONS: If you have any questions about the study or your rights as a study participant, please ask me.

CONSENT: YOUR SIGNATURE BELOW WILL INDICATE THAT YOU HAVE READ THE INFORMATION PROVIDED ABOVE (OR HAVE HAD IT READ TO YOU) AND DECIDED TO VOLUNTEER AS A RESEARCH SUBJECT.

Signature of the Participant _____ Date _____

Signature of Investigator _____Date _____

Appendix D

Staff Participation Form

Research on the Impact of the Small Garden
To Be Implemented Outside the Visitor's Area of H-Unit
Background/Staff Participation

Beth Waitkus, the facilitator of the Garden Program at San Quentin State Prison (H-Unit), is currently conducting graduate thesis research project for Masters in Science in Organization Development from Pepperdine University, Graziadio School of Business. This thesis research at San Quentin has been approved by the California Department of Corrections.

Thesis topic/research question
The research question this thesis will answer is: Will the change in physical environment at San Quentin prison—landscaping and gardening as part of the Yard Beautification Project (specifically the small garden area outside the Visitor's Center of H-Unit)—have either behavioral and attitudinal impact on inmates and staff after its implementation?

Research Methodology
The research will include qualitative (interviews) and quantitative (statistical) analyses.

Participants in the Research Study
Currently we are looking for a cross-section of staff to voluntarily participate in the study from both 2nd and 3rd Watches (including those working in various dorms). A one-hour interview will be conducted with study participants conducted prior to and after the garden is planted (for a total of 2 interviews). If you agree to participate, you will be asked to sign a consent and release form (approved by the CDC), which guarantees your anonymity in the research study. Only the researcher (Beth) will have access to the information learned from the interview, and all information will be kept off site. There are no known risks for you to participating in the study.

Your participation in this project would be greatly appreciated. It will help us understand the impact of the garden area from your perspective, and may help us identify and promote best practices of gardening and landscaping in a prison environment.

If you are interested in participating in this study, please fill out the information below and return to Lt. Egan by Friday, 11/7. Interviews will take place over the next several months.

Best regards,

Beth Waitkus
Researcher and Facilitator, Garden Program

Name: _____

Rank: _____
Position: _____

RDO: _____

Do you wish to participate in this research study: yes ____ no _____

Appendix E

Staff and Custody Consent and Release Form

Consent To Participate in a Research Study (Staff)

TITLE OF THE STUDY: The Impact of a Garden Program on the Physical Environment and Social Climate of a Prison Yard at San Quentin State Prison

INVESTIGATOR'S NAME: Beth Waitkus, Principal Researcher, current graduate student at the Graziadio School of Business, Pepperdine University, Culver City, CA. Research is in partial fulfillment of the requirements for the degree of Masters in Science in Organization Development.

PURPOSE: To study the impact of the Garden Program on inmates and staff at San Quentin State Prison.

PROCEDURES: If you decide to volunteer, you will participate in several interviews with the Principal Researcher. The interviews will last approximately between 45 minutes to one hour. You will be asked questions about your role in and perceptions of the Garden Program before, during and after its implementation. All interviews will be tape recorded and typed up for review. All tape recordings will be stored in a secure place during the research and then destroyed. No names will be used to identify anyone who takes part in the interviews. The information from the interviews will be presented in a research study focusing on the impact of this program on various groups of inmates and staff at San Quentin. It may assist in an understanding of how gardening and landscaping impacts the lives of those living and working within the prison walls.

ALTERNATIVES: Your involvement in this research is completely optional. You can decide not to be a volunteer in the study.

RISKS: There are no known risks to you for being in this study.

BENEFITS: You may not get a direct benefit from being in this study. Many other interviewees have enjoyed sharing their experiences and perceptions with an impartial listener. Your being in the study may help the researched identify and promote the best practices of gardening and landscaping in a prison environment.

Participant's Initials _____

CONFIDENTIALITY: The results of information the researcher learns from the interview may be published in the form of articles, a book, or a research report; however, you will not be identified by name. Only the researcher will have access to the information learned from the interview and no identifying information will be linked to the information learned. All tape recordings and transcripts for the study will be stored in a locking file cabinet in the office of the Principal Researcher. Absolute confidentiality cannot be guaranteed, since research documents are not protected from subpoena.

COSTS/COMPENSATION: There is no cost to you beyond the time and effort required to complete the interview. There is no payment for your involvement in the study.

RIGHT TO REFUSE OR WITHDRAW: You may refuse to be in this study. If you decide not to take part, you may change your mind about being in the study and quit at any time after the study has started.

QUESTIONS: If you have any questions about the study or your rights as a study participant, please ask me.

CONSENT: YOUR SIGNATURE BELOW WILL INDICATE THAT YOU HAVE READ THE INFORMATION PROVIDED ABOVE AND DECIDED TO VOLUNTEER AS A RESEARCH SUBJECT.

Signature of the Participant _____ Date _____

Signature of Investigator _____ Date _____

Appendix F

Pre-Garden Interview Questions

Inmate Participants and Control Group

1. How long have you been at San Quentin? At H-Unit?

2. What has been your experience (prior to prison) with plants/gardening/landscaping?

3. Is this the first time you've worked with plants/gardening/landscaping? (If answer is yes) How do you feel about landscaping/gardening?

4. If so, why did you join this program?

(Additional question for control group)—What do you know about the Yard Garden Program?

Survey Questions
(For each question that requires a feel/think response, the research participant will be asked to imagine the yard visually—either through looking at pictures, or via physical observation).

5. How do you think/feel about the prison yard in terms of its appearance?

6. How do you think/feel about the prison yard in terms of its function?

7. What goes on in the prison yard that you like? Dislike?

8. What about the prison yard would you like to change?
- From a physical standpoint?
- From a social standpoint?
- From a security standpoint?

9. Under what conditions do you feel stress on the Yard?

10. Under what conditions do you feel relaxed?

11. How do you think the change will make you feel? (Imagine the prison yard with gardens, etc.)—from the participatory perspective.
- Do you think it will impact your behavior?
- Do you think it will have any impact on non-participants?
- Do you think it will have an impact on the yard as a whole?

Appendix G

Pre-Garden Implementation Interview Questions for Staff

Pre-Garden Implementation Interview Questions for Staff

(Same visualization method used for inmates will be used with staff as appropriate)

1. How long have you worked at San Quentin State Prison? At H-Unit?

2. What have been your job responsibilities throughout your career at the prison?

3. How have your responsibilities differed throughout your career at the prison?

4. Have you had any experience with plants/gardening/landscaping outside of the prison? Inside the prison?

5. Is this the first time you've observed/participated in a program like this?

6. Is this the first time you've observed a program like this?

Survey Questions

7. How do you think/feel about the prison yard in terms of its appearance?

8. How do you think/feel about the prison yard in terms of its function?

9. What goes on in the prison yard that you like? Dislike?

10. What about the prison yard would you like to change?
- From a physical standpoint?
- From a social standpoint (in terms of the inmates, in terms of staff)?
- From a custody standpoint?

11. Under what conditions do you feel stress working here? How do you behave when you feel stressed?

12. Under what conditions do you feel relaxed? How do you behave when you feel relaxed?

13. How do yo?u think you will feel if there's a physical change to the prison yard? (for example, garden)? How do you think it will impact participants/observers/the whole yard?

Appendix H

Post-Implementation Interview Questions

Post-Implementation Interview Questions for Inmates and Staff

1. What do you think the prison yard looks like in terms of its current appearance (with the garden)? Has it impacted your behavior?

2. What do you think/feel now that the project is completed?

3. What do you think/feel about the prison yard in terms of its function?

4. What goes on in the prison yard that you like? Dislike? (Is there anything new?)

5. Under what conditions do you feel stress on the Yard?

6. Under what conditions do you feel relaxed on the yard?

7. Have your thoughts, feelings or behaviors have changed because of the garden? If so, how have they changed?

8. The last time we talked about your expectations as being XXX for the garden—did the garden implementation meet those expectations? I am interested in what you honestly believe.

Completely Partially None

9. What did you think/feel about your participation in the process of building the garden? (participants). What did you think/feel when you saw the garden being planted? (observers)

10. Is there anything else you'd like to discuss about the yard/garden?

Appendix I

Garden Photographs